CODE ANALYSIS

APPLICABLE CODES

	Year		Year
International Building Code	2006	National Electrical Code	2005
International Mechanical Code	2006	Uniform Code for	
International Fuel Gas Code	2006	Building Conservation	
International Plumbing Code	2006	ADA Accessibility	
International Fire Code	2006	Guildelines	ICC/ANSI 117.1 2003
International Energy Conservation Code	2006		

A. Occupancy and Group: UNLIMITED - COVERED MALL BUILDING

Change in Use: Yes ✓ No ____ Mixed Occupancy: Yes ✓ No ____

Special Use and Occupancy (e.g. High Rise, Covered Mall): COVERED MALL BUILDING

B. Seismic Design Category: D Design Wind Speed: 90 mph

C. Type of Construction (circle one):

I A | I B | II A | (II B) | III A | III B | IV HT | V A | V B

D. Fire Resistance Rating Requirements for the Exterior Walls based on the fire separation distance (in hours):

North: EXISTING South: EXISTING East: EXISTING West: EXISTING

E. Mixed Occupancies: ✓ Nonseparated Uses: 0

F: Sprinklers:

Required: ✓ Provided: ✓

Type of Sprinkler System (IBC 903.3.1) NFPA 13

G: Number of Stories: 3 Building Height: 34'

H: Actual Area per Floor (square feet): ADDITION 1800 SF

I: Tabular Area: (table 503): N/A - UNLIMITED - COVERED MALL BUILDING

J: Area Modifications:

a) $A_a = \left\{ A_t + \left[A_t \times I_f \right] + \left[A_t \times I_s \right] \right\}$ $I_f = \left[F/P - 0.25 \right] W / 30$

b) Sum of the Ratio Calculations for Mixed Occupancies:

$$\frac{\text{Actual Area}}{\text{Allowable Area}} \leq 1$$

c) Total Allowable Area for:

1) One Story: ____
2) Two Story: A_a(2)____
3) Three Story: A_a(3)____

d) Unlimited Area Building: Yes ✓ No ____ Code Section: 402

K. Fire Resistance Rating Requirements for Building Elements (hours).

Element	Hours	Assembly Listing	Element	Hours	Assembly Listing
Exterior Bearing Walls	0		Floors - Ceiling Floors	0	
Interior Bearing Walls	0		Roofs - Ceiling Roofs	0	
Exterior Non-Bearing Walls	0		Exterior Doors and Windows	0	
Structural Frame	0		Shaft Enclosures	1 Hr.	
Partitions - Permanent	N/A		Fire Walls	N/A	
Fire Barriers	N/A		Fire Partitions	N/A	
			Smoke Partitions	N/A	

L. Design Occupant Load: EXIST. BLDG: 620 ADDITION: 26 (24, STUDIO + 2, STORAGE)

Exit Width Required: 160" EXIST. 3.5" ADDED Exit Width Provided: 192"

M. Minimum Number of Required Plumbing Facilities:

a) Water Closets - Required (m) 18 (f) 18 Provided (m) 20 (f) 20
b) Urinals - Required (m) ____ (f) ____ Provided (m) ____ (f) ____
c) Lavatories - Required (m) 9 (f) 9 Provided (m) 9 (f)9
d) Bath Tubs or Showers: 0
e) Drinking Fountains: 3 Service Sinks: 2

FOOTNOTES:

1) In case of conflict with the U.S. Department of Justice Federal Registers Parts I through V - ADA Guidelines and specific reference to the International Building Code Accessibility Chapters, the more restrictive requirement shall govern.

2) Additional Code Information shall be provided at the discretion of the Building Official for Complex Buildings. Including, but not limited to:
   a) High Rise Requirements.
   b) Atriums.
   c) Performance Based Criteria.
   d) Means or Egress Analysis.
   e) Fire Assembly Locator Sheet.
   f) Exterior and Interior Accessibility Route.
   g) Fire Stopping, Including Tested Design Number.

PROJECT TEAM

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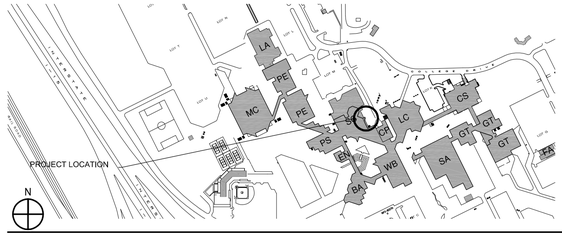
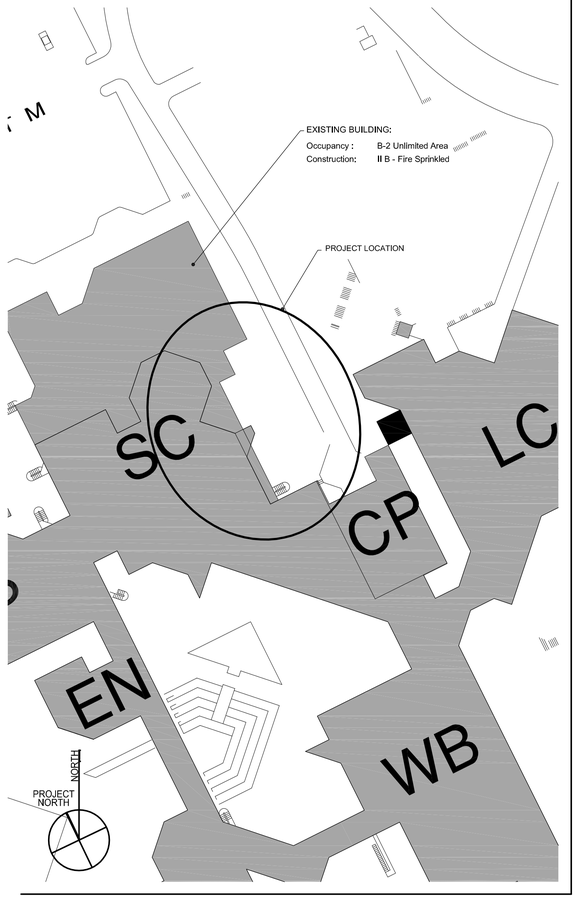
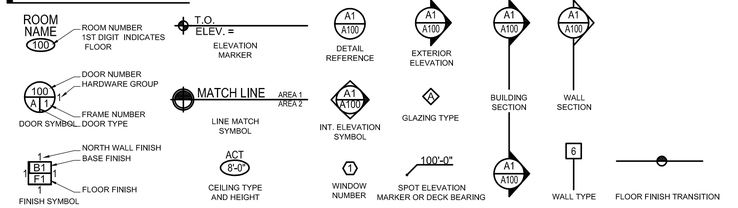
VINCINITY MAP



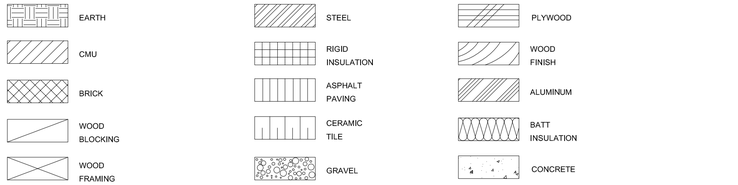
OVERALL SITE PLAN



SYMBOL LEGEND



GRAPHIC SYMBOLS



DRAWING INDEX

NOTE: THE SHEETS LISTED ABOVE REPRESENT A FULL SET OF CONSTRUCTION DOCUMENTS AND INCLUDE A DETAIL BOOK AND A PROJECT MANUAL AND SHALL NOT BE SEPERATED. ANY CONTRACTOR, SUBCONTRACTOR, VENDOR OR ANY OTHER PERSON PARTICIPATING IN OR BIDDING ON THIS PROJECT SHALL BE RESPONSIBLE FOR REVIEWING ALL THE CONSTRUCTION DOCUMENTS INCLUDING BUT NOT LIMITED TO DRAWINGS, DETAILS, PROJECT MANUAL, SPECIFICATIONS AND ANY AND ALL ADDENDA ISSUED.

UTAH VALLEY STATE COLLEGE
STUDENT CENTER ADDITION
Orem, Utah

DFCM PROJECT # 08217790

CONSTRUCTION DOCUMENTS
JUNE 2, 2008

Utah Valley State College
ENGINEERING, FACILITIES PLANNING & CONSTRUCTION DEPARTMENT

State of Utah
Department of Administrative Services
Division of Facilities
Construction & Management
4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538 - 3018
Fax: (801) 538 - 3267

ALTERNATES

ALTERNATE 1: ADD WINDOW "C" AND "D" - SEE FLOOR PLAN BASE BID INCLUDES A PAINTED GYP. BOARD WALL.

APPROVALS

Prime Agency ____ Date ____

DFCM ____ Date ____

APPROVAL DOES NOT RELIEVE A/E OF DESIGN LIABILITY

Axis Architects
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UVSC - STUDENT CENTER ADDITION
OREM, UTAH
CONSTRUCTION DOCUMENTS

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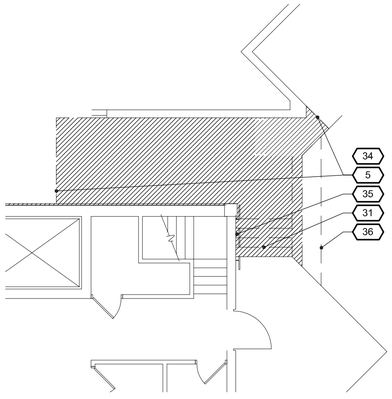
Axis Job # 0721
Owner #
Date 6-2-2008
Drawn -
Checked -

GENERAL INFORMATION

GI101

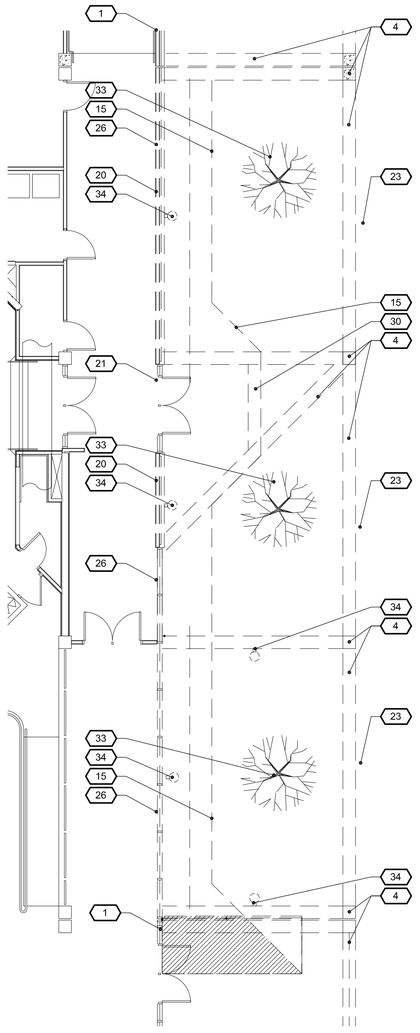
DEMOLITION KEYNOTE LEGEND

1. EXISTING WALL TO REMAIN
2. EXISTING DOOR AND FRAME TO REMAIN
4. EXISTING TO REMAIN
5. SAWCUT AND REMOVE EXISTING CONCRETE WALKWAY
11. SAWCUT AND REMOVE EXISTING FOUNDATION AS REQ'D. FOR NEW SLAB AND WALLS.
15. CONCRETE SIDEWALK TO BE REMOVED
16. NOT USED
20. REMOVE WALL
21. REMOVE DOOR AND FRAME - SALVAGE FOR RE-USE
23. RELOCATE EXISTING VEGETATION AS PER OWNER
26. REMOVE WINDOW & FRAME - SALVAGE FOR RE-USE
28. SAWCUT AND REMOVE CONCRETE SLAB AS REQ'D. FOR FOOTING EXCAVATION
29. REMOVE CEILING TILE OR OTHER CEILING
30. SAWCUT AND REMOVE CONCRETE BEAM - DO NOT DAMAGE REMAINING BEAMS
31. REMOVE EXISTING CONCRETE STAIR TREADS AND RISERS
32. REMOVE DOOR, FRAME, HARDWARE - SALVAGE FOR RE-USE
33. REMOVE AND RELOCATE TREE - VERIFY WITH OWNER
34. REMOVE EXISTING LIGHTS - SALVAGE FOR RE-USE
35. REMOVE AND REUSE EXISTING HANDRAIL - PATCH, REPAIR, AND PAINT
36. ASPHALT TO BE CUT, REMOVED, AND REPLACED AS REQUIRED FOR NEW LOADING DOCK AND STAIR.



A4 LOADING DOCK DEMO FLOOR PLAN

SCALE: 1/8"=1'-0"



A4 DANCE & STORAGE DEMO FLOOR PLAN

SCALE: 1/8"=1'-0"

PROJECT NORTH

NOTES - DEMO

1. PROTECT EXISTING BUILDING DURING CONSTRUCTION, INCLUDING FINISHES, DOORS, FRAMES AND ETC. REPAIR DAMAGE CAUSED BY DEMO AND OR NEW WORK.
2. SEE STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL DEMOLITION INFORMATION.
3. EXISTING SIGNAGE TO REMAIN OR TO BE SALVAGED FOR REMOUNTING
4. VERIFY NEW DRAWINGS TO COORDINATE OTHER DEMOLITION ITEMS REQUIRED FOR INSTALLATION OF NEW WORK.

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UVSC - STUDENT CENTER ADDITION

OREM, UTAH

CONSTRUCTION DOCUMENTS

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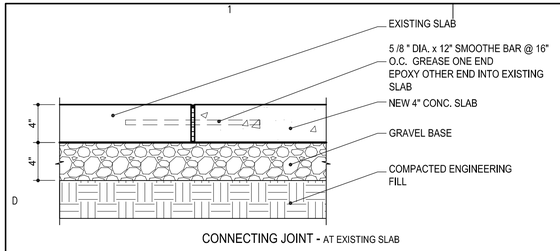
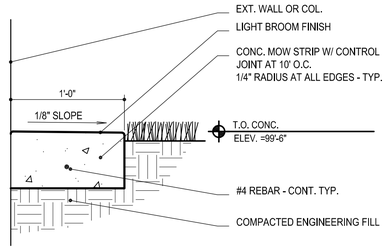
PLANS

AD101



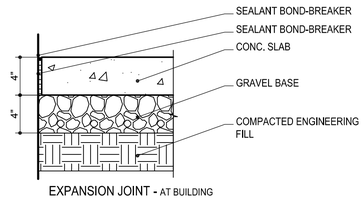
D1 NEW AND EXISTING SLAB CONNECTION

SCALE: 1-1/2"=1'-0"



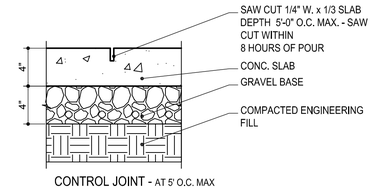
D2 MOW STRIP DETAIL

SCALE: 1-1/2"=1'-0"



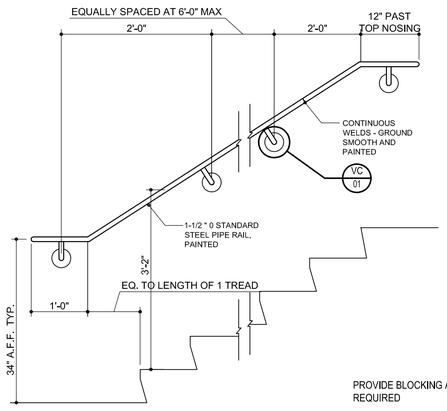
D4 CONCRETE EXPANSION JOINT

SCALE: 1-1/2"=1'-0"



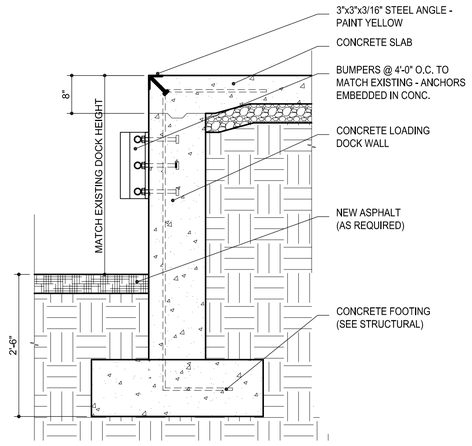
D5 CONCRETE CONTROL JOINT

SCALE: 1-1/2"=1'-0"



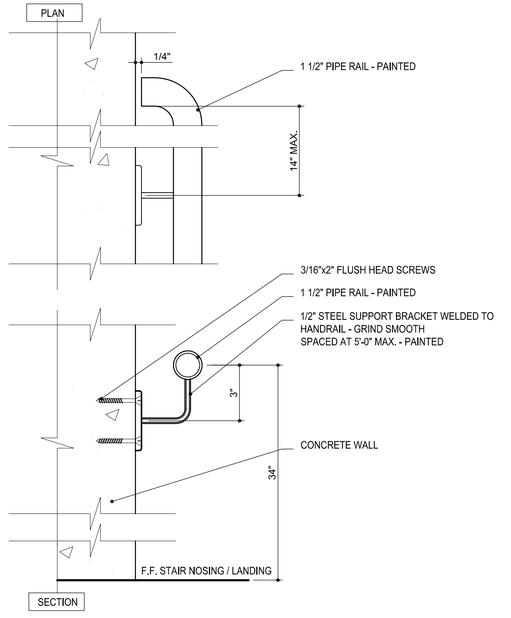
C1 HANDRAIL DETAIL

SCALE: 3/4"=1'-0"



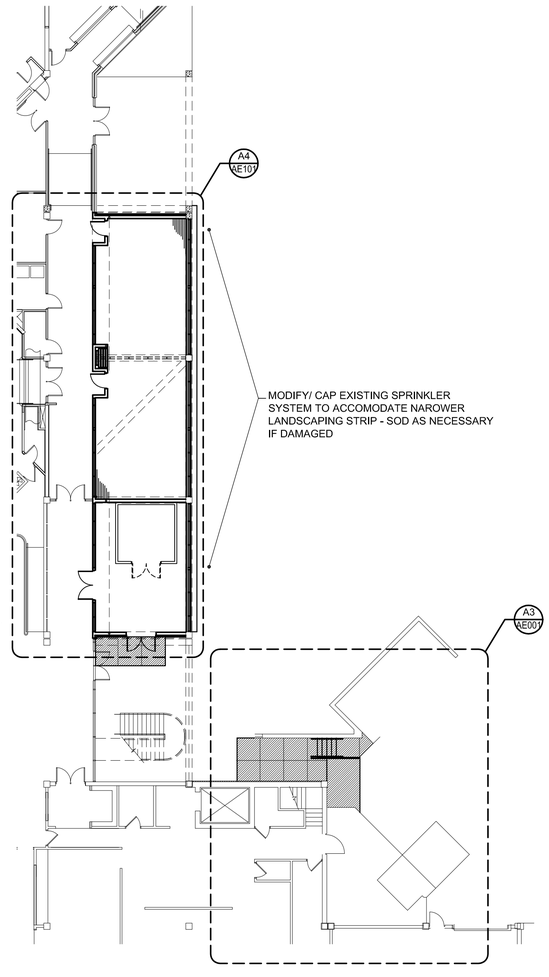
C2 DOCK SECTION

SCALE: 3/4"=1'-0"



C3 HANDRAIL DETAIL

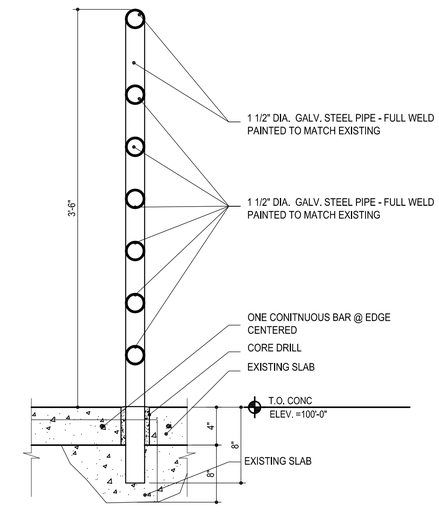
SCALE: 1-1/2"=1'-0"



A5 OVERALL PLAN

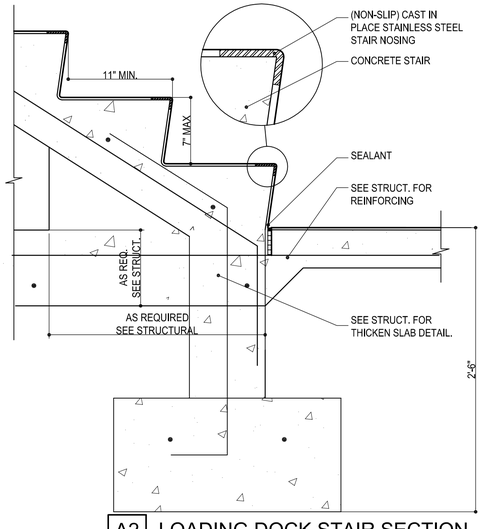
SCALE: 1/16"=1'-0"

PROJECT NORTH



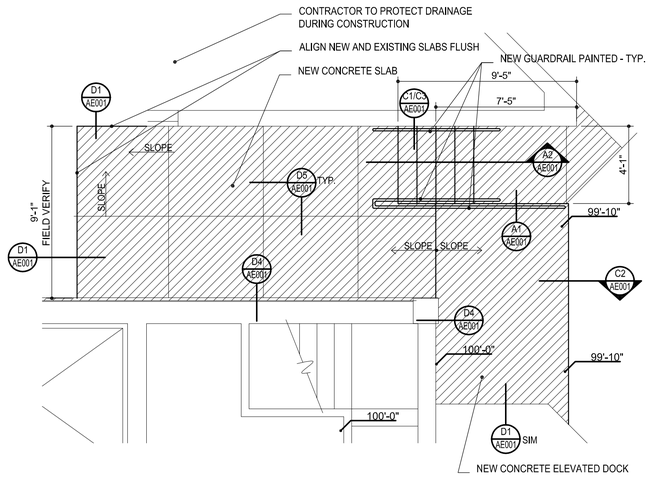
A1 GUARDRAIL LOADING DOCK STAIR

SCALE: 1-1/2"=1'-0"



A2 LOADING DOCK STAIR SECTION

SCALE: 1-1/2"=1'-0"



A3 DOCK PLAN - A

SCALE: 1/4"=1'-0"

PROJECT NORTH

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UVSC - STUDENT CENTER ADDITION

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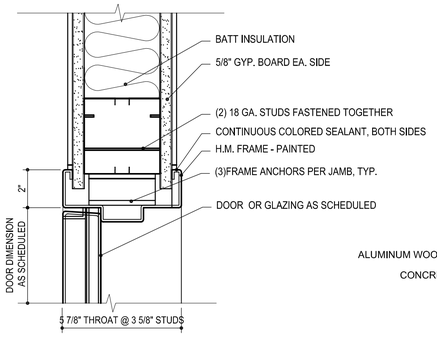
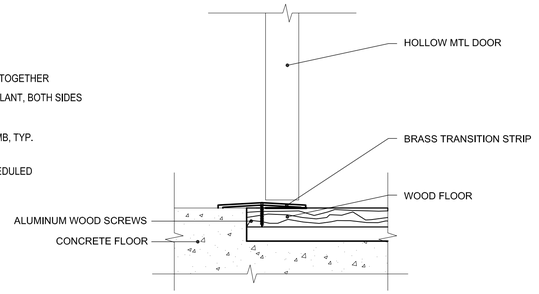
SITE DRAWINGS

AE001



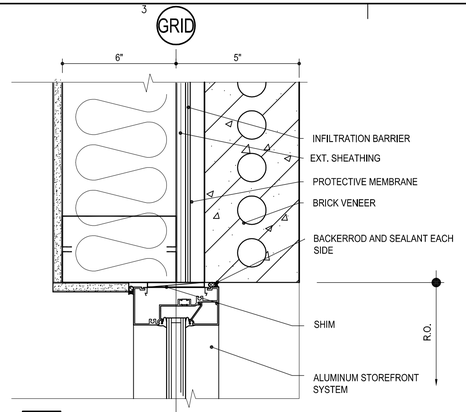
D1 HEADER DETAIL

SCALE: 3"=1'-0"



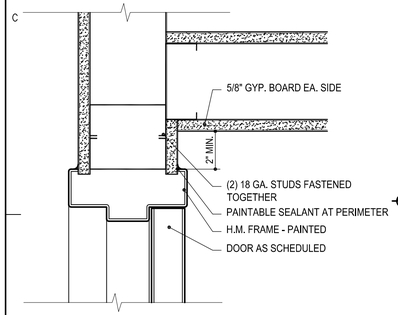
D2 TRANSITION STRIP

SCALE: 3"=1'-0"



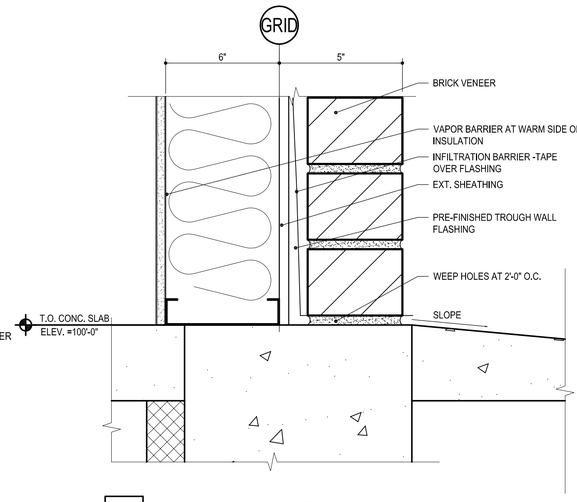
D3 ALUM JAMB

SCALE: 3"=1'-0"



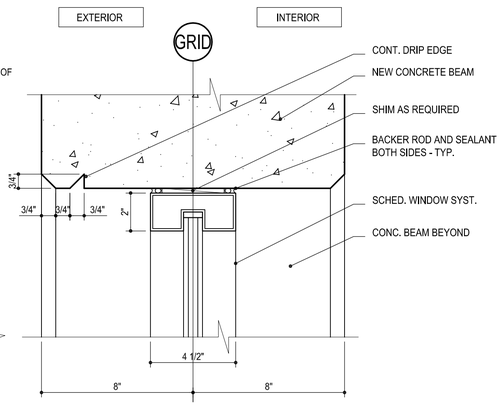
B1 JAMB DETAIL

SCALE: 3"=1'-0"



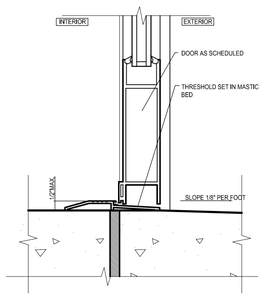
B2 WALL BASE DETAIL

SCALE: 3"=1'-0"



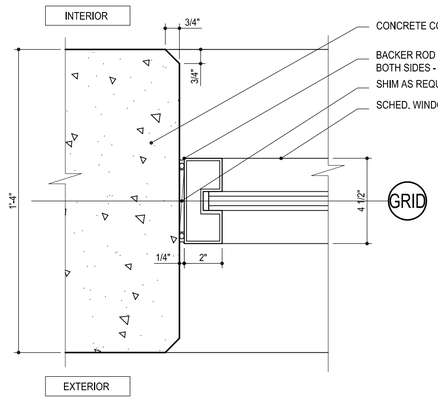
B3 WINDOW HEAD @ BEAM

SCALE: 3"=1'-0"



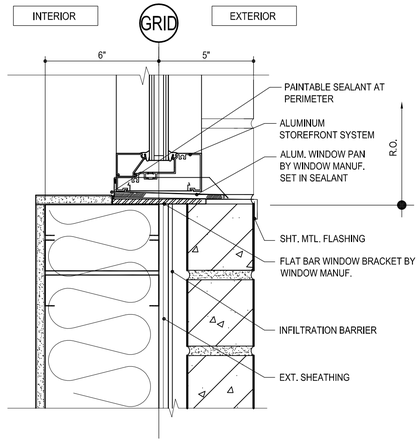
A1 THRESHOLD DETAIL

SCALE: 3"=1'-0"



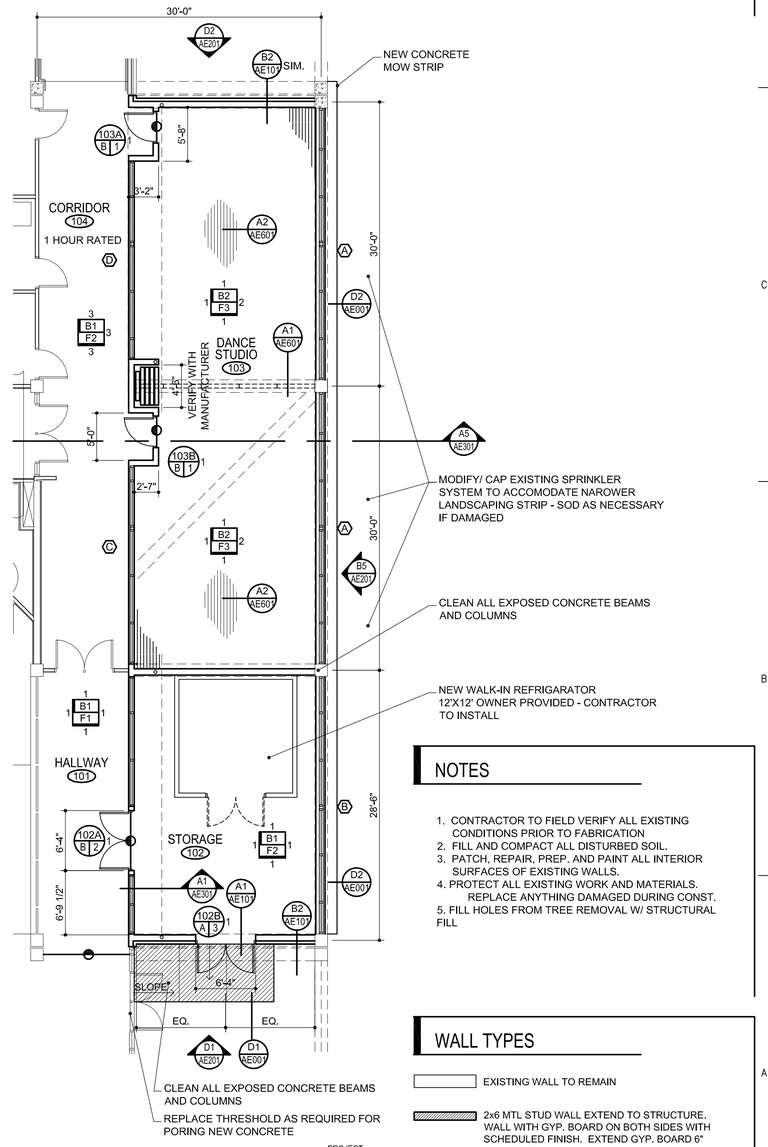
A2 WINDOW JAMB @ COLUMN

SCALE: 3"=1'-0"



A3 WINDOW SILL

SCALE: 3"=1'-0"



A4 DANCE & STORAGE FLOOR PLAN

SCALE: 1/8"=1'-0"

PROJECT NORTH

FINISH LEGEND

NORTH WALL FINISH
BASE FINISH
PAINT B1 F1 ABOVE
FLOOR FINISH
SOUTH WALL FINISH

WALL:
1. PAINT COLOR 1
2. PAINT COLOR 2
3. PAINT TO MATCH EXIST

FLOOR:
F1 CARPET
F2 SEALED CONC.
F3 WOOD

BASE:
B1. RUBBER BASE
B2. WOOD BASE
B3.

1. MATERIALS IN SIMILAR LOCATIONS ARE NOT KEYNOTED AT EVERY OCCURRENCE.
2. PROVIDE CONCRETE MOISTURE SEALER. ALL AREAS TO RECEIVE A FLOWERING FINISH MATERIAL

NOTES

1. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO FABRICATION
2. FILL AND COMPACT ALL DISTURBED SOIL.
3. PATCH, REPAIR, PREP, AND PAINT ALL INTERIOR SURFACES OF EXISTING WALLS.
4. PROTECT ALL EXISTING WORK AND MATERIALS. REPLACE ANYTHING DAMAGED DURING CONST.
5. FILL HOLES FROM TREE REMOVAL W/ STRUCTURAL FILL

WALL TYPES

EXISTING WALL TO REMAIN

2x6 MTL STUD WALL EXTEND TO STRUCTURE. WALL WITH GYP. BOARD ON BOTH SIDES WITH SCHEDULED FINISH. EXTEND GYP. BOARD 6" ABOVE CEILING - NO GYP. BOARD IN CHASES

2X6 MTL STUD WALL EXTEND TO CONC. BEAM, GYP BD ON ONE SIDE W/ 3/8" PLYWOOD SHEATHING ON EXTERIOR SIDE W/ BRICK VENEER

NOTE:
1. ALSO SEE NOTES ON FLOOR PLANS
2. ADD INSULATION IN OFFICE AND RESTROOM PERIMETER WALLS.

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UVSC - STUDENT CENTER ADDITION

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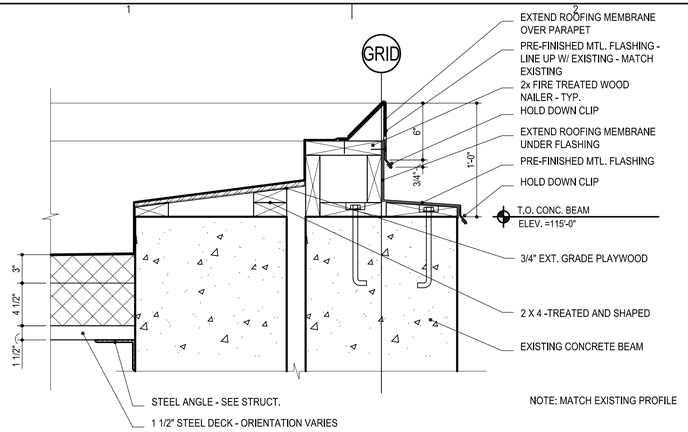
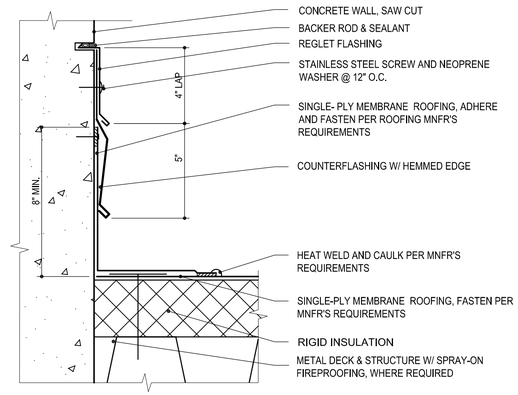
PLANS

AE101



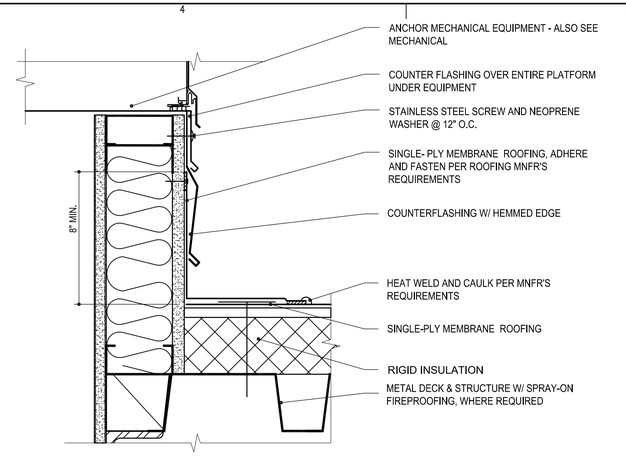
C1 ROOF EDGE DETAIL AT DOUBLE BEAM

SCALE:1 1/2"=1'-0"



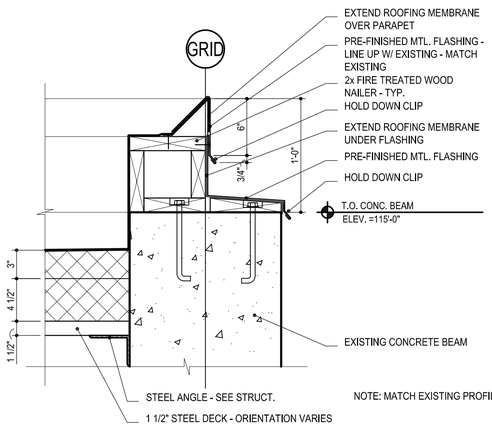
C3 ROOF FLASHING DETAIL

SCALE:1 1/2"=1'-0"



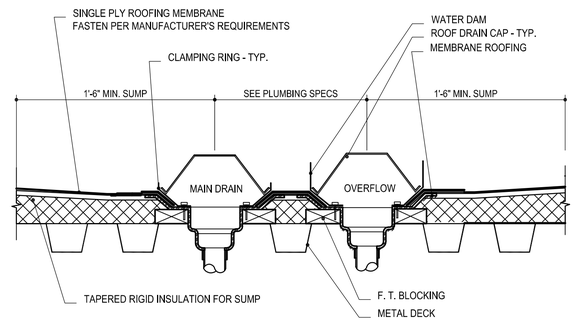
C4 ROOF CURB DETAIL

SCALE:1 1/2"=1'-0"



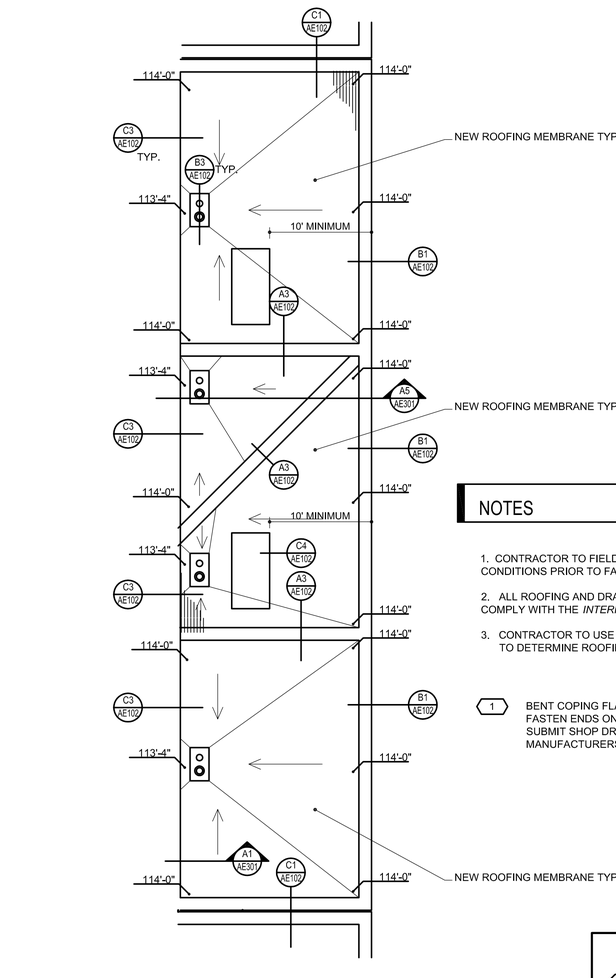
B1 ROOF EDGE DETAIL AT BEAM

SCALE: 1-1/2" =1'-0"



B3 ROOF DRAIN DETAIL

SCALE:1 1/2"=1'-0"



NOTES

1. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO FABRICATION
2. ALL ROOFING AND DRAINAGE SYSTEMS SHALL COMPLY WITH THE *INTERNATIONAL PLUMBING CODE*.
3. CONTRACTOR TO USE FLOOR PLAN DIMENSIONS TO DETERMINE ROOFING QUANTITIES.

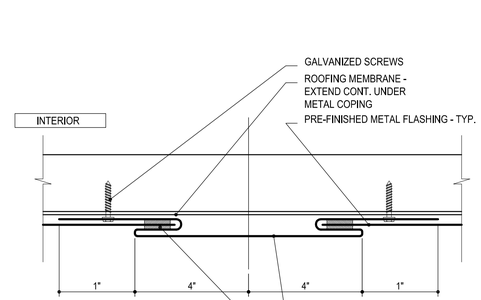
1 BENT COPING FLASHING CORNER - FASTEN ENDS ONLY FOR EXPANSION - SUBMIT SHOP DRAWINGS BASED ON MANUFACTURERS RECOMMENDATION.

LEGEND:
114'-0" DECK BEARING

A4 DANCE & STORAGE ROOF PLAN

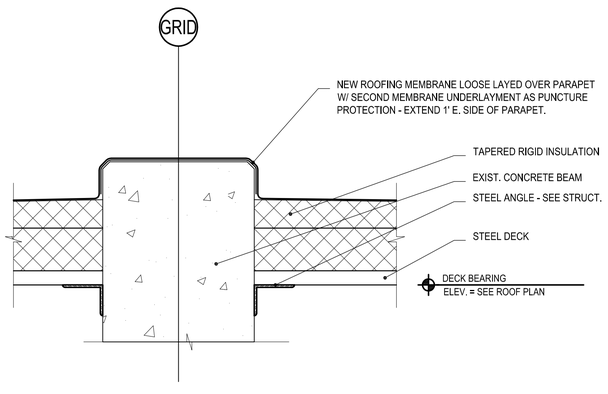
SCALE: 1/8"=1'-0"

PROJECT NORTH



A1 ROOF FLASHING DETAIL

SCALE: 6"=1'-0"



A3 ROOF DETAIL

SCALE:1 1/2"=1'-0"

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CONSTRUCTION DOCUMENTS

Revision #	Date
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Owner #
Date 6-2-2008
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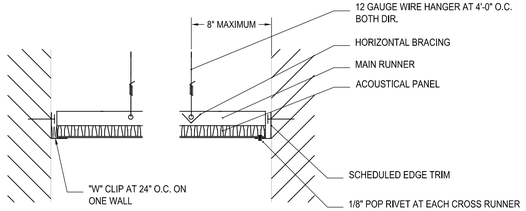
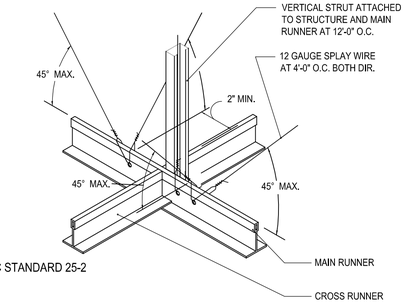
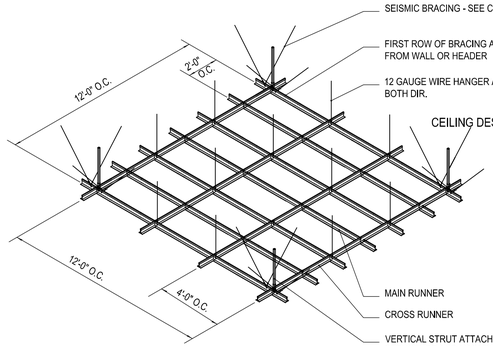
PLANS

AE102

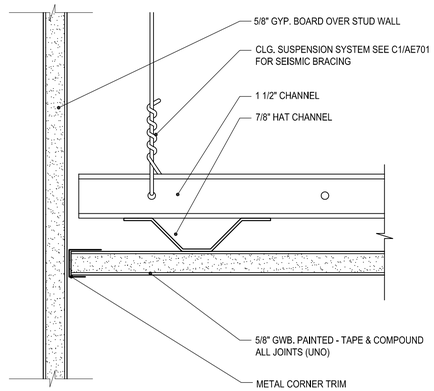


NOTE:
1. NO SPLAY WIRE SHOULD BEND AROUND EQUIPMENT, DUCTS OR OTHER WIRES.
2. ALL SPLAY WIRES TO BE IN LINE WITH ATTACHED RUNNER.
3. ADDITIONAL SPLAY WIRE ARE REQUIRED WITHIN 3" OF EACH CORNER OF LIGHT FIXTURES.
4. NO SPLAY WIRE SHALL BE CLOSER THAN 6" FROM ANY UNBRACED DUCT OR PIPE.
5. ATTACH SPLAY WIRES TO JOISTS AND RUNNERS W/ 4 TIGHT TURNS IN 2 INCHES





C2 SUSPENDED CEILING DETAIL
SCALE: 1/8"=1'-0"



C3 GYP. BOARD CEILING DETAIL
SCALE: 3"=1'-0"

CEILING SYMBOL LEGEND

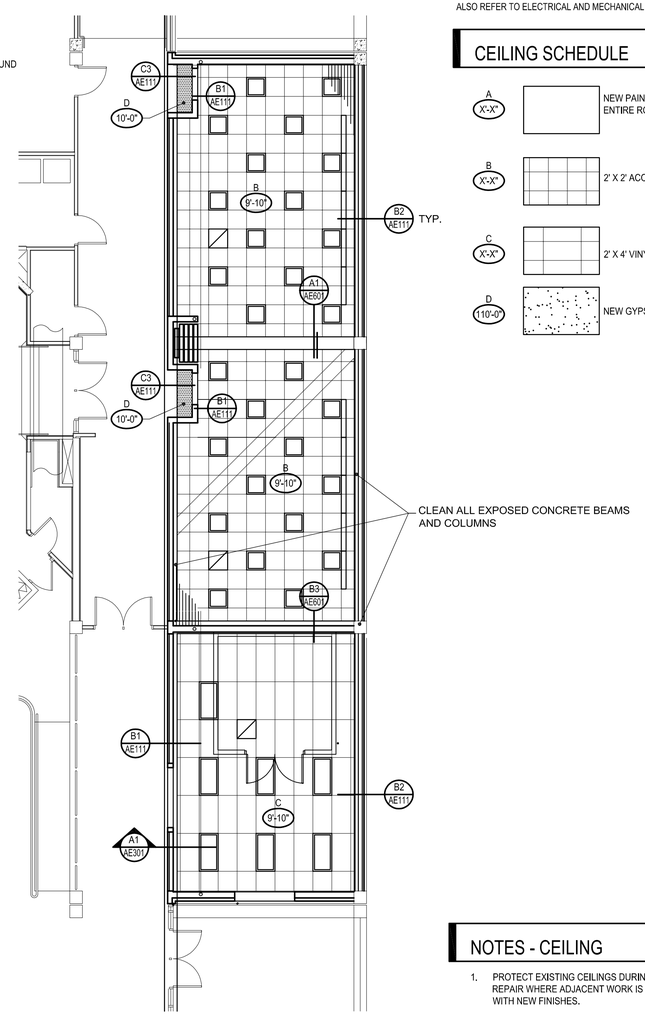
- 2x4 FLUORESCENT LIGHT FIXTURE
- 1x4 FLUORESCENT LIGHT FIXTURE
- RECESSED DOWNLIGHT FIXTURE
- EMERGENCY EXIT LIGHTING
- RETURN AIR REGISTER
- SUPPLY AIR DIFFUSER
- ACCESS PANEL

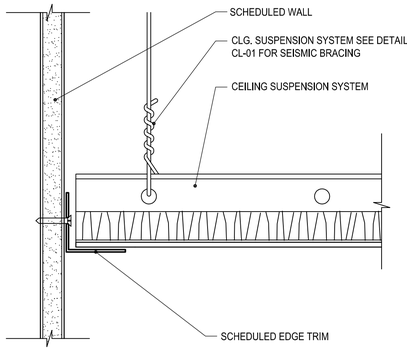
ALSO REFER TO ELECTRICAL AND MECHANICAL DRAWINGS

CEILING SCHEDULE

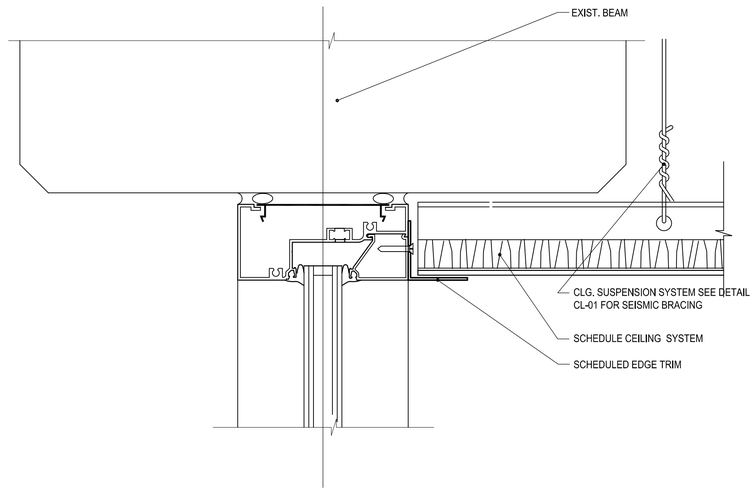
A 8'-0" — MATERIAL / ELEVATION ABOVE F.F.

A X'-X"		NEW PAINTED GYP. BOARD - APPLIES TO ENTIRE ROOM/SPACE U.N.O.
B X'-X"		2' X 2' ACOUSTICAL CEILING TILES
C X'-X"		2' X 4' VINYL FACE CEILING TILES
D 110'-0"		NEW GYPSUM BOARD CEILING





B1 SUSPENDED CEILING PANEL DETAIL
SCALE: 3"=1'-0"



B2 SUSPENDED CEILING DETAIL
SCALE: 3"=1'-0"

A4 DANCE & STORAGE REFLECTED CEILING PLAN
SCALE: 1/8"=1'-0"

PROJECT NORTH

NOTES - CEILING

1. PROTECT EXISTING CEILINGS DURING DEMOLITION AND PATCH & REPAIR WHERE ADJACENT WORK IS REMOVED AND WHERE JOINED WITH NEW FINISHES.
2. EXISTING CORRIDOR LIGHTING IS TO BE REMOVED FOR INSTALLATION OF FIRE SPRINKLER SYSTEM. VOIDS LEFT WILL BE PATCHED WITH (2) LAYERS OF GYP. BD. AND TILED TO MATCH ADJACENT.
3. ALL CORRIDOR CEILING TILES TO BE PAINTED WHITE.
4. IN CLASSROOMS WHERE WALLS ARE TO BE REPAINTED, ALSO PAINT CEILINGS WHITE.
5. CONTRACTOR TO ALLOW FOR REPLACEMENT 3% OF CEILING TILES IN ALL CORRIDORS. ARCHITECT TO INDICATE TILES DURING CONSTRUCTION.
6. PROVIDE ACCESS PANELS/DOORS AT ALL FIRE SPRINKLER VALVE LOCATIONS (45 TOTAL)

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CONSTRUCTION DOCUMENTS

Revision #	Date
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Axis Job # 0721
Owner #
Date 6-2-2008
Drawn -
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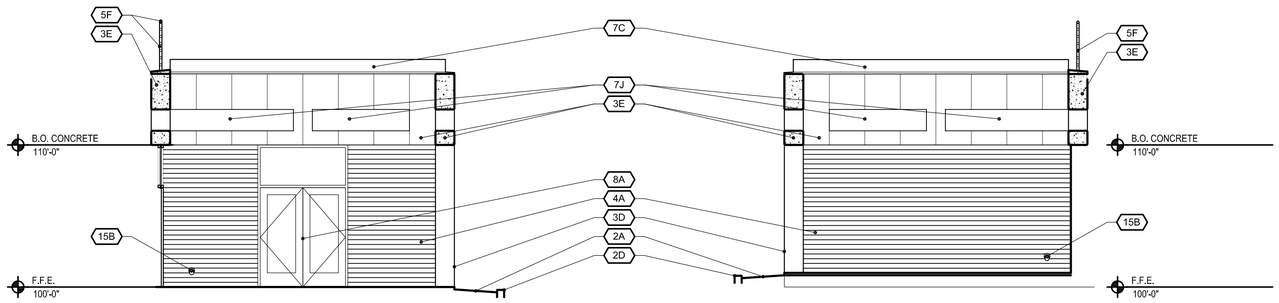
PLANS

AE111

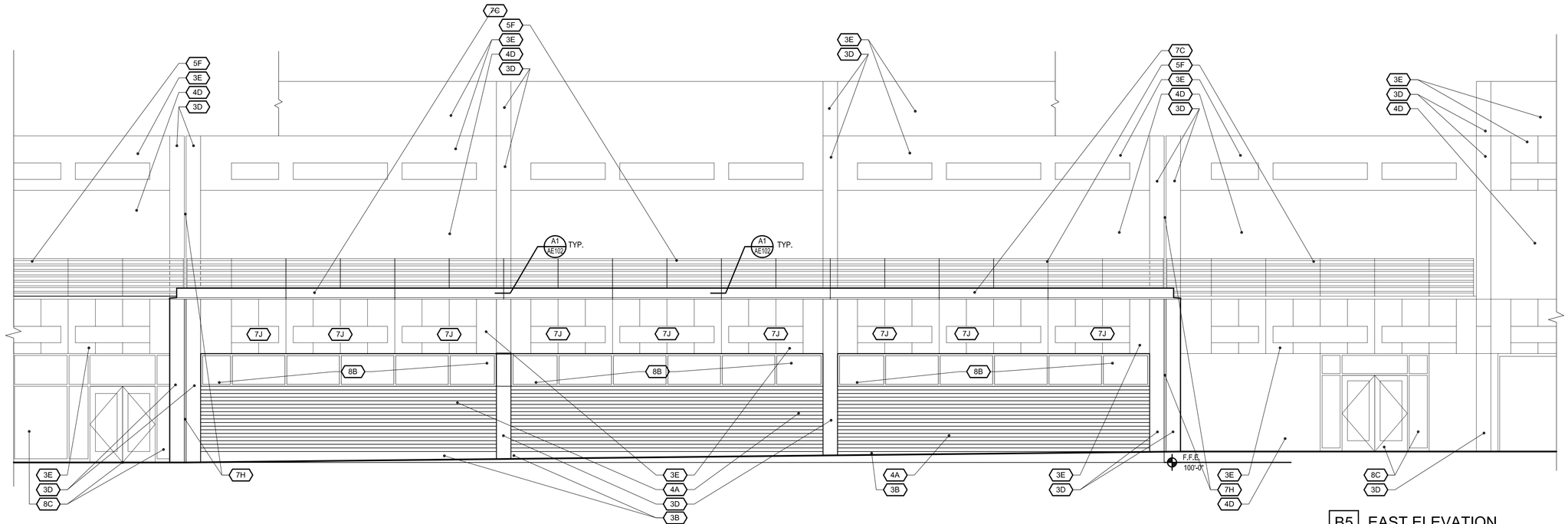


D1 NORTH ELEVATION

SCALE: 3/16"=1'-0"

D2 NORTH ELEVATION

SCALE: 3/16"=1'-0"



B5 EAST ELEVATION

SCALE: 3/16"=1'-0"

NOTES

1. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO FABRICATION

2. SEE DETAILS IN-SERIE FOR SIGNAGE

3. MATERIALS IN SIMILAR LOCATIONS ARE NOT KEYNOTED AT EVERY OCCURRENCE.

4. ALL EXISTING DOORS & FRAMES TO BE PREPPED, HOLES REPAIRED, AND PAINTED

5. REFER TO ADA REQUIREMENTS FOR MOUNTING HEIGHTS , ETC. FOR FIXTURES - COORD. W/ MECH. AND ELECTRICAL.

KEYNOTE LEGEND

1A ELEVATIONS/SECTIONS

2 - SITE WORK:
- 2A SLOPE GRADE AWAY FROM BLDG. TYP.
- 2B 4" GRAVEL BASE
- 2C ENGINEERED FILL
- 2D EXISTING CONC. CURB TO REMAIN

3 - CONCRETE:
- 3A NEW CONCRETE FOOTING - SEE STRUCT.
- 3B NEW CONCRETE FOUNDATION WALL - SEE STRUCT.
- 3C NEW CONCRETE SLAB - SEE STRUCT.
- 3D EXISTING CONC. COLUMN TO REMAIN
- 3E EXISTING CONC. BEAM TO REMAIN
- 3F EXISTING CONC. WALL TO REMAIN
- 3G EXISTING CONC. FOOTING TO REMAIN - CUT AS SHOWN
- 3H EXISTING CONC. FOUNDATION WALL TO REMAIN
- 3J EXISTING CONC. SLAB TO REMAIN
- 5G FRAMED WALL AS SCHEDULED

4 - MASONRY:
- 4A NEW BRICK VENEER
- 4B WEEP HOLES @ 24" O.C.
- 4C BRICK TIES @ 16" HORIZONTALLY AND VERTICALLY
- 4D EXISTING BRICK VENEER TO REMAIN

5 - METALS:
- 5A 1 1/2" STEEL DECK, PAINT UNDERSIDE - SEE STRUCT.
- 5B STEEL ANGLE - PAINTED - SEE STRUCT.
- 5C 3/8" DIA. ANCHOR BOLT AT 32" O.C.
- 5D STEEL BEAM - PAINTED SEE STRUCT.
- 5E BRACE TO STRUCTURE
- 5F EXISTING GUARDRAIL TO REMAIN
- 5G FRAMED WALL AS SCHEDULED

6 - WOOD:
- 6A 2x TREATED WOOD BLOCKING
- 6B SHAPED 2x TREATED WOOD BLOCKING
- 6C INFILTRATION BARRIER OVER EXTERIOR SHEATHING

7 - THERMAL AND MOISTURE PROTECTION:
- 7A SINGLE PLY ROOFING MEMBRANE
- 7B GRAVEL ROOF BALLAST
- 7C CONT. PRE-FINISHED METAL FLASHING
- 7D R-30 POLYISOCYANURATE INSULATION - SEE ROOF DETAILS
- 7E R-19 BATT INSULATION
- 7F WATERPROOFING
- 7G VAPOR BARRIER BEHIND GYPSUM BOARD
- 7H 2" EXPANSION JOINT
- 7J INFILL @ BEAM OPENING - SEE DETAILS
- 7K EXISTING SUSPENDED SLAB & WALKING SURFAC TO REMAIN

8 - DOORS AND WINDOWS:
- 8A SCHEDULED DOOR AND FRAME
- 8B SCHEDULED WINDOW SYSTEM
- 8C EXISTING DOOR AND/OR WINDOW TO REMAIN

9 - FINISHES:
- 9A PAINTED GYPSUM BOARD
- 9B SCHEDULED FLOOR FINISH
- 9C MIRROR - CONTINUOUS WHERE INDICATED

15 - MECHANICAL:
- 15A MECH. LOUVER - PAINTED
- 15B OVERFLOW DRAIN FITTING - SEE MECH.
- 15C ROOF DRAIN & OVERFLOW DRAIN - SEE MECH.

16 - ELECTRICAL:
- 16A LIGHT FIXTURE - SEE SCHEDULE

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OREM, UTAH

CONSTRUCTION DOCUMENTS

Revision #	Date
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Axis Job # 0721
Owner #
Date 6-2-2008
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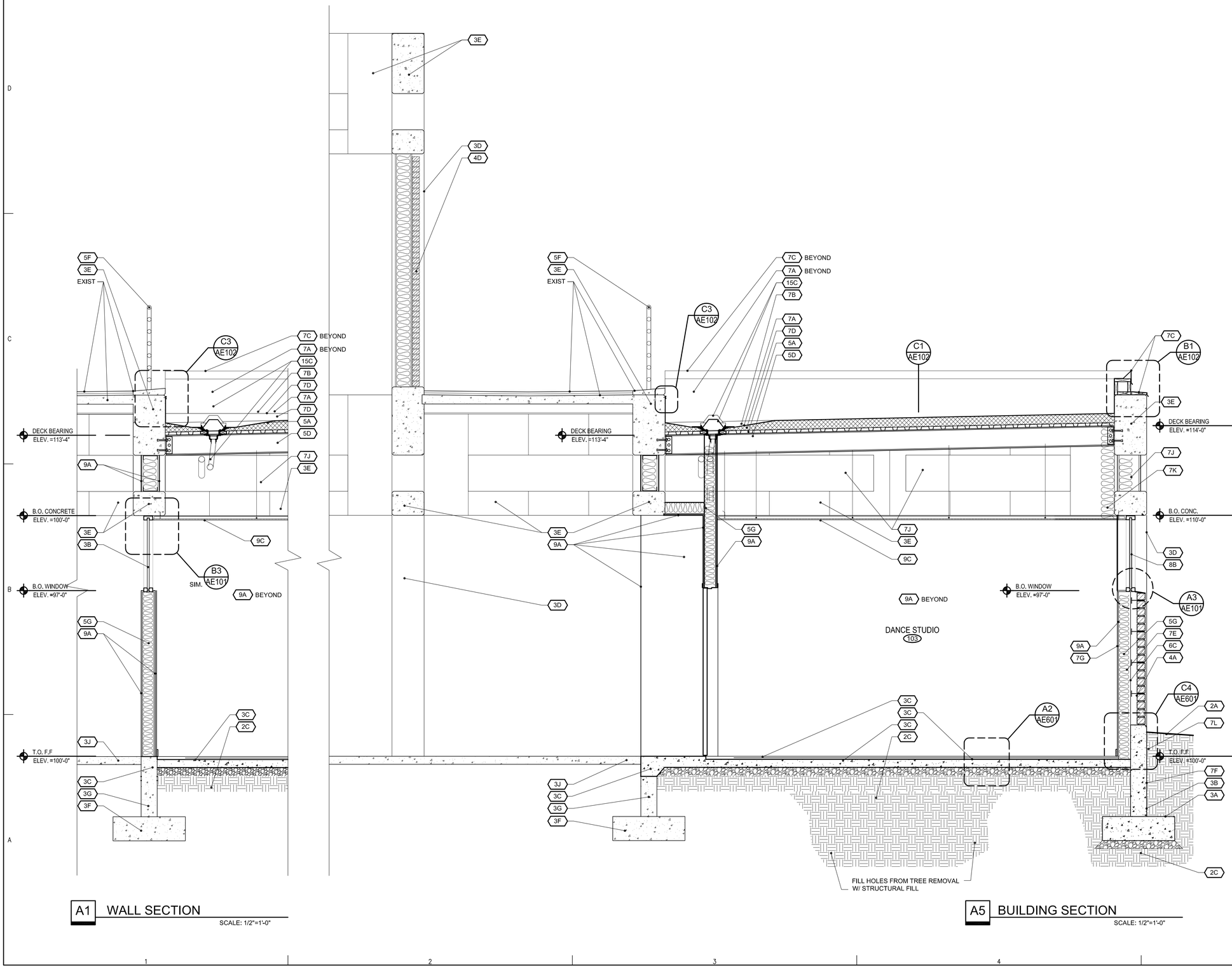
ELEVATIONS

AE201



A1 WALL SECTION

SCALE: 1/2"=1'-0"

A5 BUILDING SECTION

SCALE: 1/2"=1'-0"

KEYNOTE LEGEND 1A

ELEVATIONS/SECTIONS

2 - SITE WORK:

- 2A SLOPE GRADE AWAY FROM BLDG. TYP.
- 2B 4" GRAVEL BASE
- 2C ENGINEERED FILL
- 2D EXISTING CONC. CURB TO REMAIN

3 - CONCRETE:

- 3A NEW CONCRETE FOOTING - SEE STRUCT.
- 3B NEW CONCRETE FOUNDATION WALL - SEE STRUCT.
- 3C NEW CONCRETE SLAB - SEE STRUCT.
- 3D EXISTING CONC. COLUMN TO REMAIN
- 3E EXISTING CONC. BEAM TO REMAIN
- 3F EXISTING CONC. WALL TO REMAIN
- 3G EXISTING CONC. FOOTING TO REMAIN - CUT AS SHOWN-SEE STRUCTURAL
- 3H EXISTING CONC. FOUNDATION WALL TO REMAIN
- 3J EXISTING CONC. SLAB TO REMAIN-SEE STRUCTURAL

4 - MASONRY:

- 4A NEW BRICK VENEER
- 4B WEEP HOLES @ 24" O.C.
- 4C BRICK TIES @ 16" HORIZONTALLY AND VERTICALLY
- 4D EXISTING BRICK VENEER TO REMAIN

5 - METALS:

- 5A 1 1/2" STEEL DECK, PAINT UNDERSIDE - SEE STRUCT.
- 5B STEEL ANGLE - PAINTED - SEE STRUCT.
- 5C 3/8" DIA. ANCHOR BOLT AT 32" O.C.
- 5D STEEL BEAM - PAINTED SEE STRUCT.
- 5E BRACE TO STRUCTURE
- 5F EXISTING GUARDRAIL TO REMAIN
- 5G FRAMED WALL AS SCHEDULED

6 - WOOD:

- 6A 2x TREATED WOOD BLOCKING
- 6B SHAPED 2x TREATED WOOD BLOCKING
- 6C INFILTRATION BARRIER OVER EXTERIOR SHEATHING
- 6D EXT. GRADE PLYWOOD W/ PRE-FINISHED ALUMINUM PANEL - BRONZE FINISH TO MATCH EXIST.

7 - THERMAL AND MOISTURE PROTECTION:

- 7A SINGLE PLY ROOFING MEMBRANE
- 7B GRAVEL ROOF BALLAST
- 7C CONT. PRE-FINISHED METAL FLASHING
- 7D R-30 POLYISOCYANURATE INSULATION - SEE ROOF DETAILS
- 7E R-19 BATT INSULATION
- 7F WATERPROOFING
- 7G VAPOR BARRIER BEHIND GYPSUM BOARD
- 7H 2" EXPANSION JOINT
- 7J INFILL @ BEAM OPENING - SEE B3/AE601
- 7K R-19 SEMI-RIGID INSULATION
- 7L WATERPROOF MEMBRANE

8 - DOORS AND WINDOWS:

- 8A SCHEDULED DOOR AND FRAME
- 8B SCHEDULED WINDOW SYSTEM
- 8C EXISTING DOOR AND/OR WINDOW TO REMAIN

9 - FINISHES:

- 9A PAINTED GYPSUM BOARD
- 9B SCHEDULED FLOOR FINISH
- 9C SCHEDULED CEILING

15 - MECHANICAL:

- 15A MECH. LOUVER - PAINTED
- 15B OVERFLOW DRAIN FITTING - SEE MECH.
- 15C ROOF DRAIN & OVERFLOW DRAIN - SEE MECH.

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OREM, UTAH

CONSTRUCTION DOCUMENTS

Revision #	Date
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.	
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Axis Job # **0721**
Owner #
Date 6-2-2008
Drawn -
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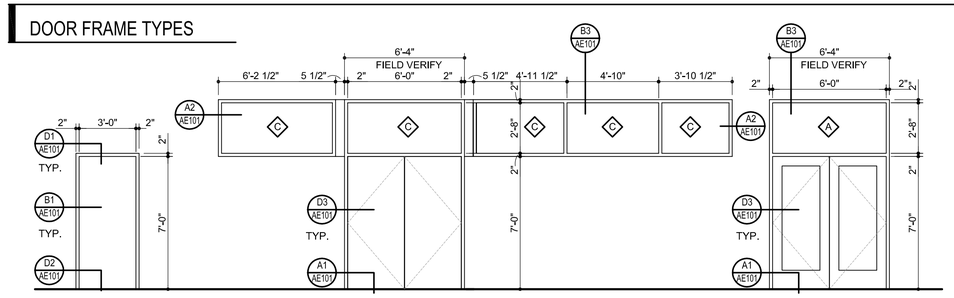
SECTIONS

AE301

DOOR FRAME TYPES

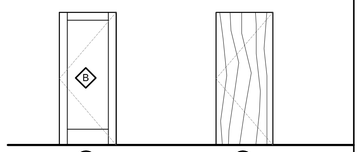


1 HOLLOW METAL FRAME
1HR RATED AT 20MN RATED DOORS
REUSE FRAME WHERE POSSIBLE

2 ALUMINUM FRAME

3 ALUMINUM FRAME

DOOR TYPES



A NEW ALUMINUM DOOR

B SOLID CORE
WOOD DOOR
20MN FIRE RATED

FINISH LEGEND

WALL:
1. PAINT COLOR 1
2. PAINT COLOR 2
3. PAINT TO MATCH EXIST

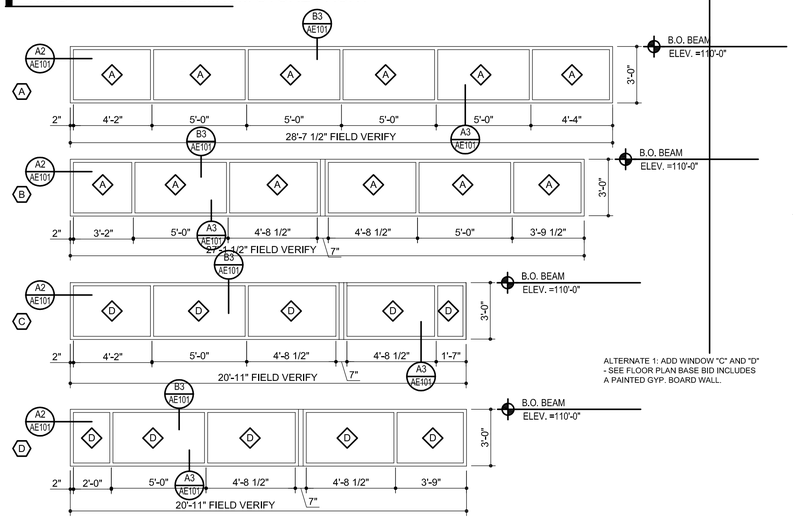
FLOOR:
F1 CARPET
F2 SEALED CONC.
F3 WOOD

BASE:
B1. RUBBER BASE
B2. WOOD BASE
B3.

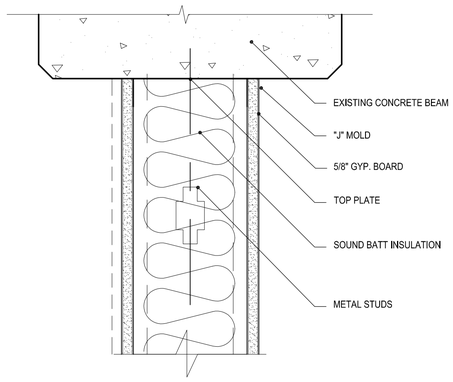
NORTH WALL FINISH
BASE FINISH
PAINT B1 F1 ABOVE
FLOOR FINISH
SOUTH WALL FINISH

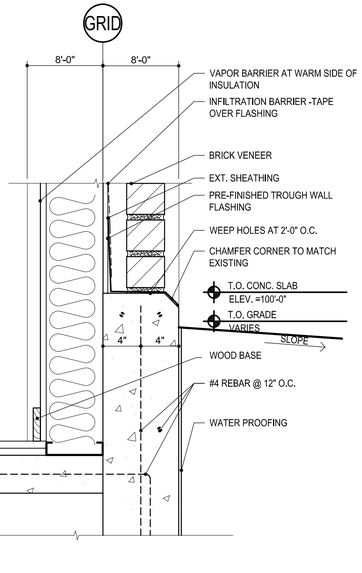
1. MATERIALS IN SIMILAR LOCATIONS ARE NOT KEYNOTED AT EVERY OCCURRENCE.
2. PROVIDE CONCRETE MOISTURE SEALER. ALL AREAS TO RECEIVE A FLOWERING FINISH MATERIAL

WINDOW TYPES - ALUMINUM STORE FRONT



ALTERNATE 1: ADD WINDOW "C" AND "D" - SEE FLOOR PLAN BASE BID INCLUDES A PAINTED GYP. BOARD WALL.





NOTES

1. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO FABRICATION
2. SEE DETAILS IN-SERIE FOR SIGNAGE
3. MATERIALS IN SIMILAR LOCATIONS ARE NOT KEYNOTED AT EVERY OCCURRENCE.
4. ALL EXISTING DOORS & FRAMES TO BE PREPPED, HOLES REPAIRED, AND PAINTED
5. REFER TO ADA REQUIREMENTS FOR MOUNTING HEIGHTS , ETC. FOR FIXTURES - COORD. W/ MECH. AND ELECTRICAL.

GLAZING SCHEDULE

A. 1" INSULATED LOW-E GLASS - TINTED BRONZE TO MATCH

B. 1" INSULATED SPANDREL PANEL - PRE-FINISHED ALUMINUM (BOTH SIDES) TO MATCH DOOR.

C. 1/4" FLOAT GLASS

D. 45 MIN RATED GLASS

NOTES

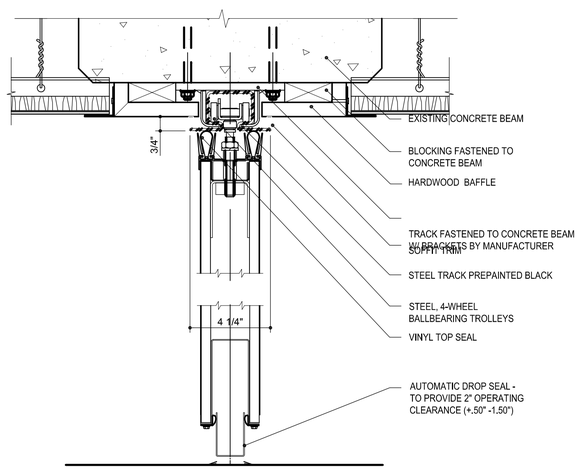
1. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO FABRICATION
2. SEE DETAILS IN-SERIES IN DETAIL BOOK
3. FILL AND COMPACT ALL DISTURBED SOIL.\
4. PATCH, REPAIR, PREP. AND PAINT ALL INTERIOR SURFACES OF EXISTING WALLS.
5. REMOVE GLUE FROM EXISTING CONCRETE FLOOR AND PATCH, PREP. AS NECESSARY FOR INSTALLATION OF NEW VCT.
6. PROVIDE INTERIOR HORIZONTAL LOUVER BLINDS ON ALL EXTERIOR WINDOWS.

WALL TYPES

EXISTING WALL TO REMAIN

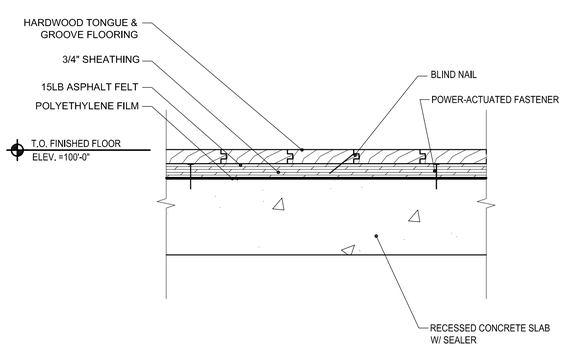
2x4 STUD WALL EXTEND TO STRUCTURE. WALL WITH GYP. BOARD ON BOTH SIDES WITH SCHEDULED FINISH. EXTEND GYP. BOARD 6" ABOVE CEILING - NO GYP. BOARD IN CHASES

NOTE:
1. ALSO SEE NOTES ON FLOOR PLANS
2. ADD INSULATION IN OFFICE AND RESTROOM PERIMETER WALLS.



A1 STACKABLE WALL PARTITION DOOR

SCALE: 1-1/2"=1'-0"

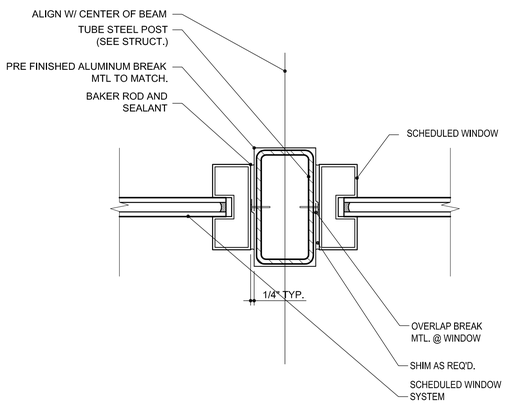


B3 WALL AT BEAM/ INFILL

SCALE: 3"=1'-0"

A2 WOOD FLOOR DETAIL

SCALE: 3"=1'-0"



C4 WALL SECTION DETAIL AT EXTERIOR

SCALE: 3"=1'-0"

A3 WRAPPED WINDOW AT VERT. SUPPORT

SCALE: 3"=1'-0"

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OREM, UTAH

CONSTRUCTION DOCUMENTS

Revision #	Date
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.	
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Axis Job # 0721
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Date 6-2-2008
Drawn -
Checked -

DETAILS

AE601

I. Basis of Design

B1. Governing Building Code: 2006 International Building Code (IBC)

B2. Gravity Loading
A. Roof.....20 psf dead load
Snow Loads Plus Snowdrift
Pg= 43 psf
Pf= 33 psf
Ce= 1.0
Is= 1.1
Ct= 1.0

B3. Earthquake
A. Seismic Design Category.. IE = 1.24
B. SDS = 0.799, SD1 = 0.49, Ss = 1.155, S1 = 0.485
C. Site Class = D
D. Lateral Force Resisting System = Concrete Moment Frames with shear walls
E. Base shear = 0.125W R= 8
F. Analysis procedure = Equivalent Lateral-Force Procedure

B4. Wind velocity.....8 miles per hour (3 second gust speed)
exposure B.
Net uplift force at roof equals 17 psf.
Importance Factor Iw.....1.15
Cladding and Components.....

B5. Foundation
A. Soil Bearing Pressure.....1500 psf. See soil report for subgrade preparation.

B. Frost Depth..... inches.

III. Concrete and Reinforcing

C1. All work and materials shall comply with all areas of ACI318 and ACI 347 Publications and applicable ASTM Publications.

C2. Compressive strength of concrete at 28 days shall be as follows: (only 1-grade of concrete shall be poured on the job at one time). Use type II cement in contact with ground.

	Minimum Compressive Strength(psi) (At 28 Daye)	Slump (+/- 1/2")	% Air Entrainment	Maximum Aggregate Size	Special Inspection Required
Footings	3000	4	3%	1 1/2"	NO
Foundations	4000	4	3%	3/4"	NO
Int.Slab on Grade	4000	3	3%	1 1/2"	NO
Ext.Slab on Grade	4500	3 5 1/2% to 7 1/2%		1 1/2"	NO
water/cement ratio = .45 max.					
Suspended Slab	4000	4		3/4"	YES
Concrete Topping	3000	3.5	N/R	3/8"	NO
Beam & Columns	4000	4		3/4"	YES

C3. Hardrock aggregates shall conform to ASTM C-33. Their Maximum size shall be 3/4" except 1" shall be used for footings and slabs on grade.

C4. Admixtures
A. Concrete mix shall include flyash as per ASTM C618 class "F" except that maximum loss on ignition shall be limited to 1% to yield specified quantities. Flyash replacement of cement shall be limited to 20% by weight.

C5. The contractor shall submit mix design and 3, 7, and 28 days strength tests for review by the structural engineer before any concrete is poured at the job site.

C6. All concrete that is placed by pumping shall be medium range-plasticized with water reducing admixture which shall comply with specifications for chemical admixtures for concrete, ASTM designation C-494 non-chloride and shall be used in strict accordance with manufacturer's recommendations. Product specification publication shall be submitted to structural engineer for review.

C7. Unless otherwise noted all reinforcement bars shall be securely anchored to the forms and spaced from them as follows: Minimum Coverage
A. Cast against & exposed to earth.....3 inches
B. Concrete exposed to earth or weather:
#6 though #18 bars..... 2 inches
#5 bar and smaller.....1 1/2 inches
C. Not exposed to weather or in contact with ground: slabs, walls, joists:.....3/4 inches

C8. Reinforcing Steel
A. All reinforcing steel shall be bent, detailed and chaired as per the "ACI Manual of Standard Practice for Detailing Reinforcing Concrete Structures."
B. All reinforcing steel to be welded shall comply with ASTM A706.
C. All reinforcing steel shall be of new stock deformed bars conforming to ASTM A-615 grade 60 unless otherwise noted. Placement of bars in accordance with ACI 315 and ACI 318. Use bar supports per ACI 315 chapter 7 for all rebar and welded wire fabric. As per ACI 318, Section 7.5.1: "All reinforcement shall be accurately placed and adequately supported before concrete is placed and shall be secured against displacement within tolerances permitted in 7.5.2." Wet stabbing reinforcing is not allowed.
D. Unless otherwise indicated, all anchors welded to steel plates or angles that are embedded in masonry or concrete shall be deformed bar anchors conforming to A36 Steel or ASTM A706.
E. Minimum standard rebar lap lengths: #3=19" #4=25" #5=31" #6=37" #7=54" #8=62" #9=70" #10=78" #11=85".
Epoxy coated bar laps, multiply above values by 1.2. For epoxy coated rebars or wires with cover less than 3db or clear spacing less than 6db, the laps shall multiply the above values by 1.5.
Lightweight concrete bar laps, multiply above values by 1.3. (ie. #6=37"x1.3=48").
If more than 12" concrete is below rebar (beam top reinforcing), multiply above values by 1.3. (ie. #5=31"x1.3=47").
See shear wall schedule for seismic lap lengths.
All vertical reinforcing bars (unless noted otherwise) shall be doweled to footing with 90 degree standard hook.
F. Reinforcing for concrete walls as follows:(unless otherwise noted on drawings)

Thickness	Horizontal Reinf	Vertical Reinf
6"	#4 at 16" o.c. each face	#4 at 18" o.c. each face
8"	#4 at 12" o.c. each face	#4 at 18" o.c. each face
10"	#4 at 15" o.c. each face	#4 at 18" o.c. each face
12"	#4 at 12" o.c. each face	#4 at 18" o.c. each face
14"	#4 at 12" o.c. each face	#4 at 18" o.c. each face
16"	#4 at 12" o.c. each face	#4 at 18" o.c. each face
18"	#4 at 10" o.c. each face	#4 at 18" o.c. each face

G. All dowels shall have at least 38 bar diameter embedment.
H. Break out dowels may be used for convenience of contractor, however dowels shall be Grade 40 and spacing of dowels shall be decreased by 1/3.
I. Provide corner bars at all intersecting corners. Use same size bar and spacing as horizontal wall reinforcing.
J. Add 2-#5 bars around all openings (unless otherwise noted) and extend 24" beyond corner of openings. Add also 2-#5 x 4'-0 diagonally at corners. For reinforcing over opening see opening details on drawings.
K. When called for on the drawings or when directed by engineer bars that are to be epoxy doweled are to be put in holes larger than the bar diameter (1/4" larger for rebar and 1/8" larger for threaded bars). The holes shall be ten bar diameters deep for 4000 psi concrete or above and 15 bar diameters for concrete below 4000 psi and masonry. Fill holes with "HIT" Hi-Mod epoxy gel (or equal as approved by engineer).
All epoxy dowels and epoxy anchors are to be either threaded or deformed bars as per drawings. Apply epoxy as per manufacturer's recommendations. Mixing shall be done using a power mixer. For cold weather application gel shall be mixed at 70 degrees and kept at 40 degrees for 72 hours after application. Impact type drilling tools shall not be used for drilling holes or tightening anchors and shear bolt nuts into or through brick. SPECIAL INSPECTION IS REQUIRED.
L. The contractor shall include an "in-place" price in his bid for 2000 pounds of reinforcing bars to be used as directed by the structural engineer. This reinforcing steel need not be stockpiled at the job site. The contractor shall submit with his bid a unit price credit for the unused portion of bars.
M. Top rebar in slabs and beams including top 6" of ties and column bars exposed to weather are to be epoxy coated after fabrication as per ASTM A 775-81 "Standard Specifications for Epoxy-coated Rebar." Splice length of epoxy-coated top bars shall be 1.7 times the length in Note E. Splice length for all other epoxy coated bars shall 1.5 times Note E.
N. Beam Rebars shall be spliced as follows, unless noted otherwise:
a. Top bars at midspan.
b. Bottom bars at support.

C9. Concrete tests shall be made by testing laboratory approved by the architect, with copies of all reports being mailed to the architect and the contractor. In general, one test shall be made for each 50 cubic yards of concrete, or each days' pour if less than 50 yards, or as directed by Architect. Each test shall consist of 5 cylinders of which one shall be tested at 7 days, 2 tested at 28 days, and two retained in reserve for later tests, if required. Specimens shall be made and tested in accordance with ASTM C-172, C-31 and C-39 standards. Slump and Air entrainment test shall also be made with each set of cylinders taken. Contractor shall provide the cylinders. The testing laboratory shall transport all cylinders. The owner shall pay for all tests.

C10. Before concrete is poured, check with all trades to insure proper placement of all openings, sleeves, curbs, conduits, bolts, inserts, etc. relating to work.

C11. Drypack concrete shall be one part Portland cement and one part sand with sufficient water to allow a small amount of paste to come to the surface. Use for grouting joists and beam pockets unless otherwise noted.

C12. Under steel column base plates, concrete grout shall be non-shrink with sufficient water to allow pouring. Ultimate compressive strength (F'C) at 28 days shall = 4,000 psi. Grout shall be non-metallic, meeting CRD-C621 and in accordance with the manufacturer's published specification for mixing and placing.

C13. Formwork not supporting weight of concrete, such as sides of beams, walls, columns, and similar parts of the work, may be removed after cumulatively curing at not less than 50 degrees for 24 hours after placing concrete, provided concrete is sufficiently hard to not be damaged by form removal operations, and provided curing and protection operations are maintained. Formwork supporting weight of concrete, such as beam soffits, joints, slabs and other structural elements, may not be removed in less than 14 days or until concrete has attained 75% of its design minimum compressive strength at 28 days. Support formwork from facing materials with structural members spaced sufficiently close to prevent deflection. Fit forms placed in successive units for continuous surfaces to be accurately aligned free from irregularities and within allowable tolerances.
Provide 1/16" camber per every 2.5 feet in concrete formwork of exposed to view concrete unless otherwise indicated by Architect/Engineer.

C14. All exposed to view concrete shall be stoned smooth while green, or as directed by Architect. No grout plaster shall be permitted.
Exposed to view concrete shall have 3/4" deep "V" groove placed vertically at 8'-0" o.c. or as directed by Architect.

C15. Protect freshly placed concrete from premature drying and excessive cold or hot temperature as per ACI 318 and maintain without drying at a relatively constant temperature for a period of time necessary for hydration of cement and proper hardening.

C16. Cold weather curing and protection requirements for concrete shall conform to the requirements of ACI 306 when depositing concrete at freezing temperature or below, the concrete mix shall have a temperature of at least 50 degrees but not more than 80 degrees. The concrete shall be maintained at a temperature of not less than 50 degrees and in a moist condition for not less than 7 days after placing or as directed by the structural engineer. The use of chemicals or additives to prevent freezing will not be permitted.
Contractor shall prevent frost from penetrating under footings or interior slabs on grade or postpone concrete pour. Refer also to specifications and to any directive by structural engineer for additional cold weather requirements.

C17. Architect/Engineer shall be notified 48 hours prior to pouring any concrete in order to observe reinforcing placement.

C18. All concrete shall be properly vibrated in place using internal vibrating rods.

C19. Non-shored suspended concrete slabs shall be screeded off of non-deflecting elements or make adjustments for slab joist-beam deflections. Submit deflection design for review.

C20. Unless otherwise noted all concrete slabs apply a liquid type membrane forming curing compound complying with ASTM C 309, type 1, class A Moisture loss shall be not more than 0.055 gr./sq. cm. applied at 200 sq.ft./gal. When temperature is 75 degrees or more during placement do not use membrane but moist cure slab for 7 days continuous minimum or see ACI Committee 305 Report "Hot Weather Concreting". Submit method of curing for approval.

C21. All suspended concrete slabs shall be reinforced with 6x6 - W2.9 x W2.9 welded wire mesh with #4 slab dowels at 16 inches on center unless noted otherwise on drawings.

IV. Masonry

M1. A. All face brick shall be burned clay grade SW conforming to IBC Standard.
B. All testings shall meet the requirements shown in IBC Section 2105, Quality Assurance.

M2. All mortar shall be Type "M" using Portland Cement and hydrated lime only and sand, compressive strength of mortar shall be 2500 psi minimum at 28 days.

M3. Grout
A. Grout shall have an 8" to 10" slump using 3/8" max. aggregate. Size and height limitations of the grout space or cell on the average shall not be less than shown in ACI 530-05, Table 1.16.1. Provide cleanouts for pours higher than 5' as per IBC for high lift grout procedure and must meet the requirements of ACI 530.1.
B. Grout shall be consolidated before loss of plasticity in a manner to fill the grout space. Grout shall be vibrated with an internal pencil vibrator at each lift. All grout to be properly vibrated during placement and again before final set using an internal pencil type vibrating rod.
C. Minimum compressive grout strength = 3000 PSI.

M4. Construction
A. Grouted masonry construction shall comply with IBC Chapter 21.
B. All anchor bolts (and epoxy adhered threaded rods) shall be placed in grouted cells.
C. Provide 1/16" camber per every 2.5 feet of masonry formwork unless otherwise indicated. The head sections of all masonry openings shall be shored to prevent sagging. Contractor shall provide shoring calculations for beam spans over 10'-0".
D. Masonry construction in cold weather shall be in compliance with IBC Section 2104.
E. Unless otherwise noted, reinforce over all openings in masonry walls and doorways up to 6'-0" with 2-Horizontal bars to match wall reinforcing placed in 1-horizontal bond beam unit and grout solid for at least 16" above opening. Provide 2-vertical bars at jambs of opening and wall ends to match typical wall reinforcing in 1-cell. For openings 6'-0" to 10'-0" use 4-#6 (2 -in 2-bond beams) over opening and grout solid for at least 40" above opening. Extend horizontal bars a lap length beyond opening each side typical. Provide (4) #5 vertical or 4-vertical bars at jambs of openings and wall ends to match wall reinforcing whichever is greater. Extend bars from footing to top of the wall. For openings over 10'-0", see plans and schedules typical. See also plan notes and sections. Kicker angle 3 x 3 x 1/4 should be provided at the masonry lintel at every joist or at 6'o.c. maximum.
F. Step unfinished work for later joining with new work. Vertical toothing shall not be permitted unless approved by Structural Engineer.
G. Provide masonry wall crack control joints at 40'-0" o.c. maximum unless noted otherwise on drawings. When masonry wall is stack bond type construction, provide crack control joints at 12'-0" o.c. maximum and at all wall plane changes and jambs. Coordinate location of all crack control joints with Architect.

V. Structural Steel

S1. All structural steel work shall comply with the latest edition of the AISC "Standard Specifications for the Design, Fabrication and Erection of Structural Steel for Buildings", and "Code of Standard Practice". ASTM A-992 FY=50 ksi minimum specified for structural shapes, A36 steel for miscellaneous steel, and ASTM A-500 grade B for structural tubes, typical U.N.O. Cambering shall meet the standard mill practice shown on AISC "Manual of Steel Construction".

S2. Shop paint and remove all rust, oils, mill scale. Apply one coat zinc chromate 2 dry mills thick. Provide touch up field coat at all abraded and welded areas, two dry mills thick. All steel exposed to moisture conditions shall be galvanized. (Follow SSPC - Paint 20; ASTM A 780)

S3. Unless noted otherwise, all structural steel to steel bolted connections shall use 3/4" diameter high strength bolts conforming to ASTM A-325 (N) and shall have carbonized washers under the turning unit. All other bolts shall conform to ASTM A-307. A-325 bolts are to tightened by either turn of the nut method or load indicator washers. All A-325 bolt tightening shall be supervised by an independent testing agency who shall certify in writing that all bolts are properly tightened.

S4. Unless noted otherwise on plans, all steel floor beams shall have L/480 positive camber for 25 feet or greater spans and roof beams over 30 feet or greater TYP. U.N.O.

S5. Welding
A. All welding to be made by certified welders using E-70 series electrodes. (For all welding of ASTM A-572 steel, E70X8 electrodes shall be used and welding shall be as per AWS D1.1 "Structural Welding Code".)
B. All welders to be currently certified for all type of welds on this project under latest AWS D1.1, Structural Welding Code. Welders to have passed the Qualification Requirements within preceding 6 month period.
C. Welds made against concrete are to be done under the supervision of an approved testing agency and that fillet welds should be made in 1/8" passes 2" long at 4" o.c
D. All steel to steel connections not shown bolted which is continuous, shall be welded to develop full strength capacity of connecting members.
E. Minimum size of fillet weld (unless noted otherwise on drawings):

Material thickness of thicker part joined	Minimum size of of fillet weld
to 1/4" inclusive	1/8" all around
over 1/4" to 1/2"	3/16" all around
over 1/2" to 3/4"	1/4" all around
over 3/4" to 1 1/2"	5/16" all around

F. Unless otherwise noted, all structural steel to steel connections shall be made in such a manner to develop full shear capacity of connecting members as per AISC specifications.
G. Field paint all abraded and welded surfaces for joists and metal deck. Use SSPC - Paint 20 (Galvanic).
H. Unless otherwise indicated, all anchors welded to steel plates or angles that are embedded in masonry or concrete shall be deformed bar anchors conforming to A36 Steel or ASTM A706.
I. All deck bearing angles or plates shall have full penetration welds at splices and corners typical unless noted otherwise.
J. All full penetration welds shall be tested by x-ray or ultrasonic procedures by an independent testing agency approved by the architect. Where testing procedures are not physically possible, visual inspection before and during welding shall be done by an independent testing agency.
K. 10% of all shop and field welds shall be done under the direct supervision of an independent testing agency approved by the architect and tested by magnetic particle procedures.
L. Copies of all tests results are to be sent to structural engineer. Welds found to be defective shall be corrected at no extra cost to the owner.
M. All weld testing shall be paid for by the owner.

S6. Steel Deck
A. All metal deck shall meet requirements of Steel Deck Institute (SDI) for wide rib deck. See drawings for type of deck. Manufacture shall be a member of SDI.
B. Deck manufacturer shall have ICBO certification showing lateral shear capacities of deck equaling 1400 plf TYPICAL and 2100 plf for 18 gage deck, with an F (Flexibility Factor) less than 10.
C. Provide 18 gage sheet metal reinforcing at all valleys, hips, ridges, deck changing directions, and openings through metal deck. For openings 15" and larger frame opening with angle 3 x 3 x 1/4" unless otherwise noted. End laps to occur at supports and shall have minimum lap of 2". The deck shall be attached to all supports and the side lap of adjacent units.
D. All deck splices shall occur over supporting members and shall have a minimum of 4" of flat bearing surface contact.
E. Deck Welding (unless otherwise noted):
a. Supports parallel to deck 3/4" diameter puddle welds at 12" o.c.
b. Supports perpendicular to deck 3/4" diameter at each valley.
c. Top seam welds 1 1/2" at 12" o.c. Deck shall be crimped prior to all side or top seam welding. For composite floor deck, side lap use 1/4" diameter button punch at 24" o.c..
d. Welder shall be certified as a light gage welder in accordance with AWS.
e. Use E60 electrodes.
a, b, and c are minimum deck welding, deck supplier is to indicate deck welds on shop drawings to develop stated shear capacities.
F. Unless noted otherwise on drawings all deck shall bear on and be welded to continuous angle 3 x 3 x 1/4 x cont. at all deck boundaries fastened to concrete or masonry wall with weld plates as per typical details or 3/4" diameter x 8" x 3" J-bolts at 16" o.c. Provide angle 3 1/2 x joist depth x 3/16 under all changes in deck direction.
G. All continuous deck bearing angles shall have full penetration welds at splices and corners.
H. Architect/Engineer shall be notified 48 hours prior to application of roofing material in order to observe deck attachment.
I. Roof deck and joists and girders shall be designed for 17 psf uplift force minimum, U.N.O.

S7. Steel Studs
A. Structural steel studs shall be as specified in this note and shown on drawings with minimum effective properties.

Stud Size	Gage	Gross Area (In.2)	IXX (In.4) EFFECTIVE
6"x 1 5/8	18	.43	2.22
6"x 1 5/8	16	.54	2.76
4"x 1 5/8	16	.42	1.06
3 5/8 x 1 5/8	16	.41	.84

B. All studs shall be spaced at 16" o.c. unless noted otherwise and to be standard painted unless otherwise noted.
Fy for 16 ga. and heavier material..50 Ksi
Fy for 18 ga. and lighter material..33 Ksi
C. Unless otherwise noted all bridging to be 1 1/2" minimum x 1/8" minimum x continuous cold rolled channels positioned through stud punch-outs and weld attached on both sides to stud punch-out. Bridging shall be spaced at 4'-6" o.c. to match punch-outs. Where punch-outs do not line up use weld attached bridge clip angles.
D. All track to be stud size by 1 1/2" flange by 16 gage standard painted unless noted otherwise. Attach track to concrete slab at 16" o.c. using .177" diameter x 1 1/2" powder driven fasteners. Tracks and bridging to have Fy = 33,000 psi.
E. All splices of structural studs to be full strength. Use 2'-0" minimum section lapped 1'-0" above and below splice fully welded. Alternate all splices 24" minimum. Spot paint all welds after cleaning.
F. Load bearing stud walls must be fabricated with the stud ends seated against the track web. Full web and flange bearing must be provided.
G. All structural studs shall be welded to top and bottom tracks with 1/8" x 1 1/2" fillet at each stud flange and 1/8" x 3" at stud web.

S8. Steel columns and beams that are located inside concrete or masonry walls or that are in contact with the walls shall have deformed bar anchors (K-Set or Nelson) welded to the steel members at the shop. The deformed bar anchors (abbreviated DBA) shall match the size and location of the horizontal or vertical wall rebar that is interrupted by the steel members and shall be of such length to lap 38 bar diameters with the concrete wall reinforcing and 48 bar diameter with the masonry wall reinforcing. Steel columns which are located inside the wood wall shall have a 3x stud with 5/8" x 2 1/2" welded stud at 48" o.c. TYP. U.N.O..

S9. Headed stud type shear connectors shall conform to ASTM A-108 grade 1015 or 1020 cold finished carbon steel with dimensions complying with AISC specifications and as shown on drawings.

S10. Unless noted otherwise on plans, all steel stairs shall have C12 x 20.7 stringers with concrete filled 12 gage welded pans and risers.

VII. General Conditions

G1. If discrepancies exist between specifications, general notes and drawings, call the Engineer (801-575-8223)to resolve the conflict or use the more expensive option.

G2. All dimensions on structural drawings shall be checked and verified against architectural drawings. All dimensions relating to existing site, buildings, installations or construction shall be field verified, all discrepancies shall be submitted to the architect. Do not proceed with fabrication and erection of materials affected until discrepancies are resolved.

G3. All omissions or discrepancies in the working drawings and or specifications shall be brought to the attention of the Architect and/or Structural Engineer before proceeding with any work involved.

G4. Shoring
A. Until all permanent members, including walls, slabs, floors and roof are in place and all connections are completed, stability of structure and all parts thereof shall be contractor's responsibility. During construction contractor shall keep construction loads within the design load limits shown on drawings. After construction is completed building owner shall keep loads on roof and floor within design limits shown on drawings.
B. Do not backfill walls until floor at top of wall is in place or adequate temporary bracing is provided.
C. Contractor shall provide shoring design calculations and drawings stamped by a Utah Registered Professional Engineer.

G5. All Construction shall be in accordance with the IBC 2006 and supplements unless a higher standard is called for.

G6. Unless a more stringent requirement is specified, design all members with minimum Live Load deflection of L/360.

G7. Contractor shall be responsible for safety and protection in and around job site and or adjacent properties.

G8. Observation visits to the site by Bsumek Mu and Associates Field Representative shall neither be construed as inspection nor approval of construction.

G9. Contractor shall provide 5 sets of shop drawings for review by structural engineer for: all reinforcing bars, structural steel, glu-lam beams, wood joist, clock tower, and all prefab. structural items (including structural calculations) and shall also be approved by the governing authority prior to installation. See Section 106.3.4.2.

G10. All openings through floors and walls shall be verified with architectural, mechanical and electrical drawings. Do not cut openings in concrete or masonry without approval of structural engineer and architect.

G11. Contractor/Window/Door - Supplier shall provide 1/2" minimum vertical movement capability in frame system.
Window/Door- Supplier shall design for wind load specified under "Basis for Design" and shall submit professional engineer stamped design calculations showing compliance with Wind Load Capacity and vertical movement capacity.

G12. Seismic bracing of electrical, mechanical equipment, and ceiling system shall be designed by their respective supplier and stamped by a Utah Professional Engineer and submitted for design review and should be submitted to the governing authority for approval prior to installation.

G13. The appearance of all exposed structural elements shall be approved by architect or owner.
All blemishes, dents, or shipping damage in structural elements that are exposed to view shall be repaired before erection and shall be approved by the architect. All sweeps in beams joists, and girders greater than 1/2" shall be corrected. Repairs shall be made at no cost to the owner. For tolerances in wide flange shapes, follow AISC specifications.

VIII. Special Inspections and Structural Testing for Seismic Resistance

Special inspections shall be done by Special Inspectors that are qualified and approved for each area of work stated below or as required by the Building Official. All special inspections shall be paid for by the OWNER. The special inspector shall observe the work assigned for conformance with the approved design drawings and specifications. The special inspector shall submit reports to the owner, the Building Official, the Contractor, Architect, and Bsumek Mu and Associates. The special inspectors shall conform to and fulfill all other responsibilities as outlined in SECTION 1704, 1707, 1709 of the IBC 2006. The special inspector shall submit written reports of observations stating time, date, location of work and observation of work being done.

A. See note C2 for concrete above 2500 psi not requiring special inspections. Some higher strength concrete is specified for durability only.
B. Special inspections are required for the following work:
1. Concrete and reinforcing placement. Except for the following conditions:
a. For foundations satisfying requirement of IBC 2006,Table 1805.4.2.
b. Non-Structural slab on grade.
c. Site work concrete where no special hazards exist.
2. Bolts installed in concrete where indicated on drawings.
3. Welding except for the following:
a. Welded connections made by an approved fabricator's shop need no special inspection. When Building Official allows, periodic inspections for floor and roof deck welds and composite welded stud.
b. Periodic inspection may be done as outlined on drawings. See IBC 2006, Table 1704.3.
4. High strength bolting inspection for bearing type connections need be done only after installation.
5. Structural masonry:
All masonry walls require special inspections, unless noted otherwise, and shall have a qualified special inspector present at the job site at the beginning of every day masonry work is being performed to coordinate work and grout schedule during that day. The inspector shall also be present during the following:
a. The taking of prism tests.
b. At least one hour prior to any grout being placed to inspect rebar placement and review the quality of work.
c. Grouting of all masonry work.

A minimum of one prism test composed of 10 specimens, 5 to be tested at 7-days and 5 specimens to be tested at 28 days, shall be made prior to any masonry construction for each masonry strength and each type of masonry unit shown on drawings. The prisms tested shall be made up of the required number of both ungrouted and solid grouted masonry units. All masonry units used shall be cut (with full web member) prior to building prism. All specimens are to be made at the same time and under the same conditions. During construction contractor shall provide prism tests of three specimens for every 5000 sq.ft. of each different strength of masonry wall but not less than three prior to construction. Submit laboratory mix design and prism test results to structural engineer for review. Contractor/Owner shall allow costs in his bid for masonry requiring special inspection. The special masonry inspector shall have ICBO Certification for "Structural Masonry" or be approved by the structural engineer. The inspector should report by phone to the Architect/Engineer any work not being done in accordance with the contract documents.
d. Quality Assurance Program shall meet the requirements of Level 2 Quality Assurance shown on Table 1.15.2 of ACI 530.05/TMS 402-05.
6. Section 1707. Special inspections for seismic resistance.
7. All rebars and threaded rods epoxy doweled into concrete and/or grouted CMU.
C. Structural testing for seismic resistance, see Section 1708 of the IBC 2006.
D. Structural observations shall be done according to Section 106.3.4.1. All the seismic resisting elements shall be inspected, including footings.

Axis Architects

UVSC - STUDENT CENTER ADDITION
OREM, UTAH
CONSTRUCTION DOCUMENTS

Revision # Date
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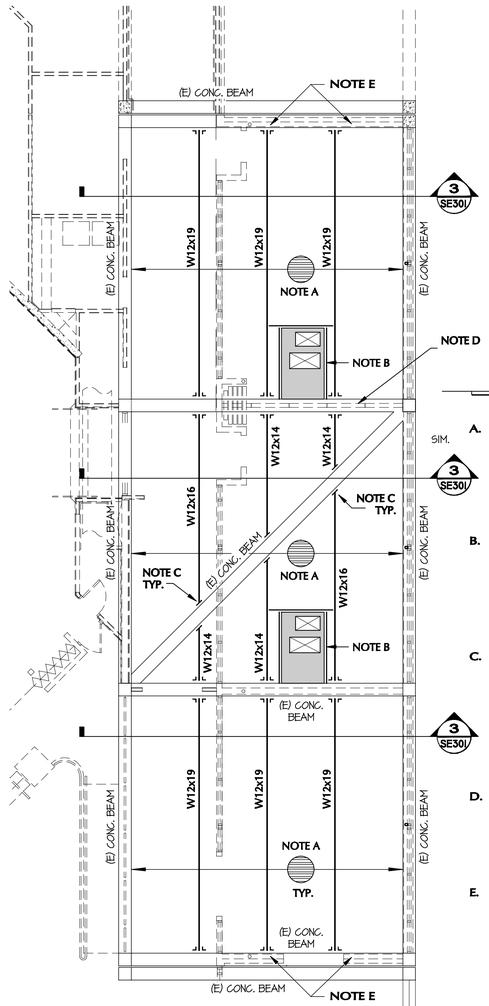
Axis Job # 28034
Owner #
Date 5-30-2008
Drawn -
Checked -

STRUCTURAL GENERAL NOTES

SE001



ROOF PLAN NOTES:

A. ROOF DECK SHALL BE 1 1/2" x 20 GAGE GAL. G-90 TYPE 'B' METAL DECK (SHEARTRANZ MAY NOT BE REQ'D); HOWEVER, DIAPHRAGM SHEAR SHALL MEET THE REQUIREMENTS AS PER GENERAL NOTE 56.B ON SE001. ALL DECK SHALL BE (3) CONTINUOUS SPANS, MIN. SEE SHEET SE00.1. FOR DECK SPECIFICATIONS AND WELDING.

B. COORDINATE MECHANICAL UNIT WEIGHTS, LOCATIONS, DIMENSIONS, AND OPENINGS WITH MECHANICAL DRAWINGS. SEE DETAIL 8/SE501 FOR FRAMING. SEE DETAIL 2/SE501 FOR ALL MECHANICAL EQUIPMENT (i.e. PIPES, DUCTS, AND FANS) THAT ARE HUNG FROM JOISTS. IF LOADS EXCEED THAT SHOWN FOR DETAIL 2/SE501 THEN COORDINATE WITH STRUCTURAL ENGINEER.

C. ATTACH EACH NEW W12 BEAM TO EXISTING DIAGONAL CONC. BEAM WITH SLOPED PLATE 1/2" THICK WITH (4) 3/4" DIA. THRD RODS EPOXIED THRU CONC. BEAM, SEE 3/S301 SIM. PROBE EXISTING CONC. BEAM FOR LOCATION OF EXISTING REBAR AND ADJUST LOCATION OF THRD RODS ACCORDINGLY TO AVOID EXISTING REBAR. DO NOT DRILL INTO OR THRU EXISTING BEAM REINFORCING. WELD PLATE TO END OF W12 BEAM.

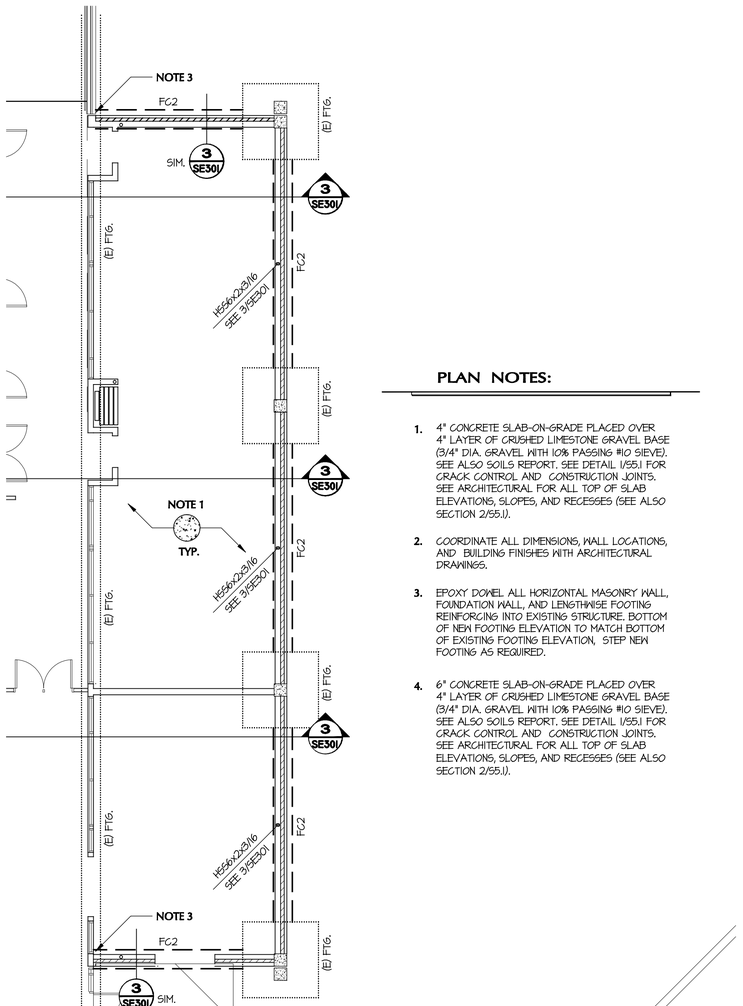
D. ATTACH TRACK FOR PARTITION DOOR BELOW TO BOTTOM OF EXISTING CONCRETE BEAM WITH 1/2" DIA. x 6" HILTI HDI OR EQUAL BOLTS @ 24" O.C. TYP. OR AS REQUIRED BY DOOR SUPPLIER i.e. EXTRA BOLTS AT STACKING END, COORDINATE WITH DOOR SUPPLIER.

E. ATTACH TRACK AT TOP OF STEEL STUD WALL BELOW TO BOTTOM OF EXISTING BEAM w/ 5/32" DIA. x 1 1/2" POWDER DRIVEN ANCHORS @ 16" O.C. STAGGERED 2 1/2" AND 6" MAX. FROM ENDS.

S1 DANCE & STORAGE ROOF FRAMING PLAN

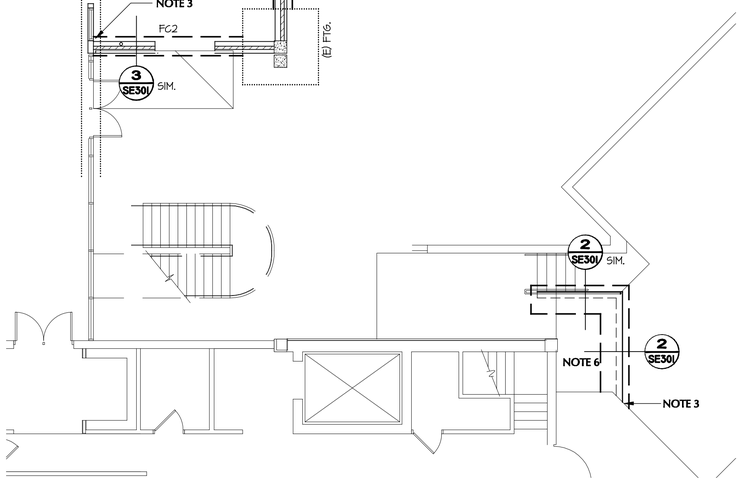
SCALE: 1/8"=1'-0"

PROJECT NORTH



PLAN NOTES:

1. 4" CONCRETE SLAB-ON-GRADE PLACED OVER 4" LAYER OF CRUSHED LIMESTONE GRAVEL BASE (3/4" DIA. GRAVEL WITH 10% PASSING #10 SIEVE). SEE ALSO SOILS REPORT. SEE DETAIL 1/S5.1 FOR CRACK CONTROL AND CONSTRUCTION JOINTS. SEE ARCHITECTURAL FOR ALL TOP OF SLAB ELEVATIONS, SLOPES, AND RECESSES (SEE ALSO SECTION 2/S5.1).
2. COORDINATE ALL DIMENSIONS, WALL LOCATIONS, AND BUILDING FINISHES WITH ARCHITECTURAL DRAWINGS.
3. EPOXY DOWEL ALL HORIZONTAL MASONRY WALL, FOUNDATION WALL, AND LENGTHWISE FOOTING REINFORCING INTO EXISTING STRUCTURE. BOTTOM OF NEW FOOTING ELEVATION TO MATCH BOTTOM OF EXISTING FOOTING ELEVATION, STEP NEW FOOTING AS REQUIRED.
4. 6" CONCRETE SLAB-ON-GRADE PLACED OVER 4" LAYER OF CRUSHED LIMESTONE GRAVEL BASE (3/4" DIA. GRAVEL WITH 10% PASSING #10 SIEVE). SEE ALSO SOILS REPORT. SEE DETAIL 1/S5.1 FOR CRACK CONTROL AND CONSTRUCTION JOINTS. SEE ARCHITECTURAL FOR ALL TOP OF SLAB ELEVATIONS, SLOPES, AND RECESSES (SEE ALSO SECTION 2/S5.1).



S1 DANCE & STORAGE FOOTING & FOUNDATION PLAN

SCALE: 1/8"=1'-0"

PROJECT NORTH

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Axis Job # 28034
Owner #
Date 5-30-2008
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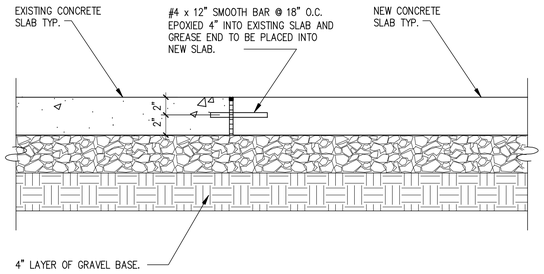
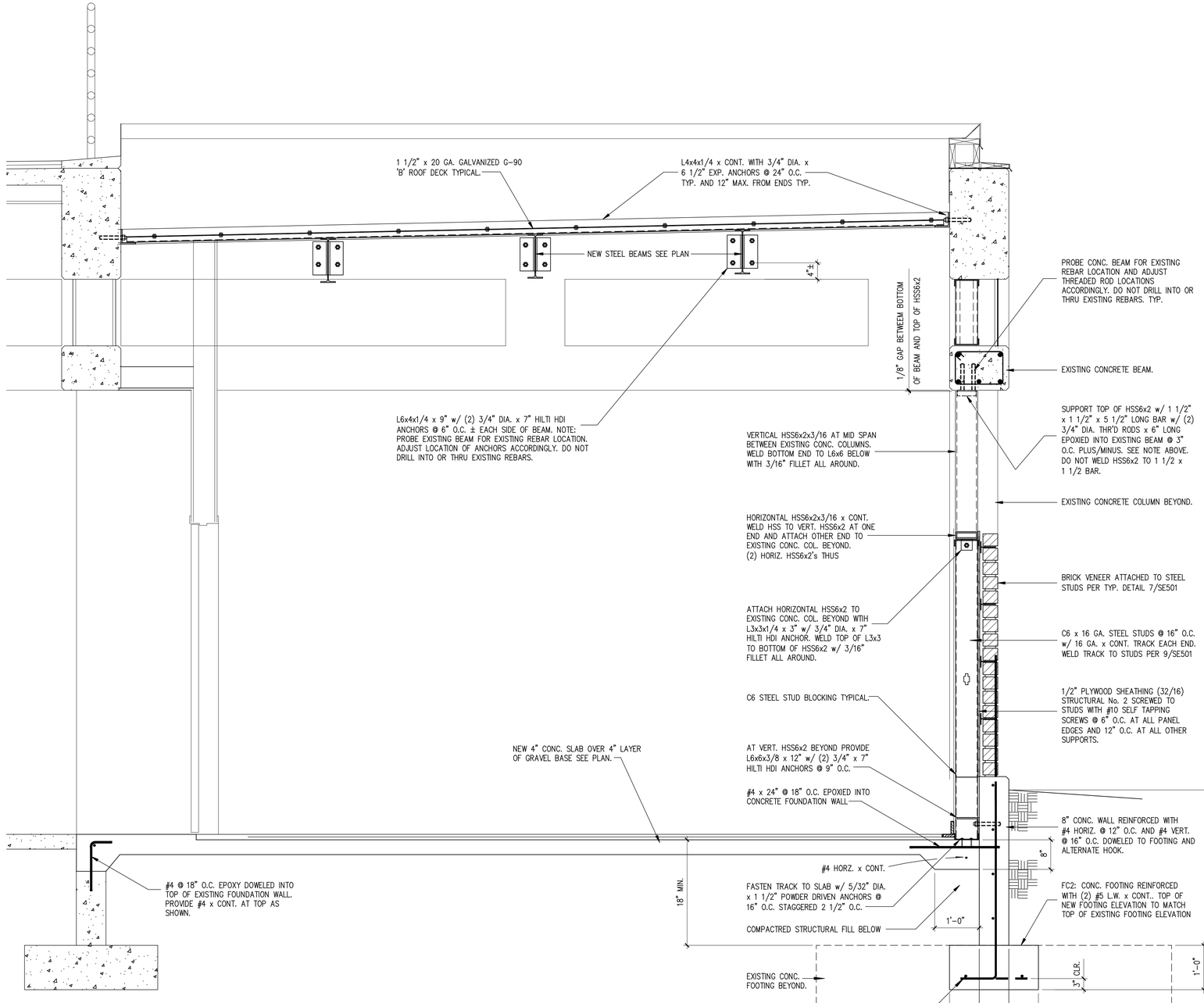
FOOTING & FOUNDATION AND ROOF FRAMING PLANS

SE101

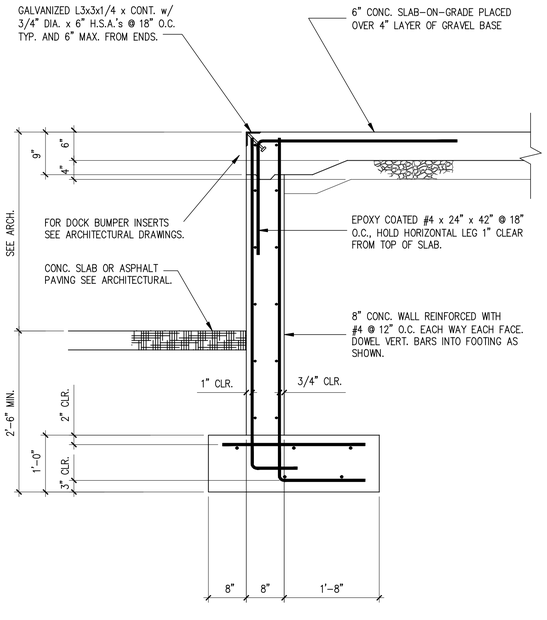


EXISTING AND NEW SLAB JOINT

SCALE: N.T.S. = 1'-0" (1/SE301)



SCALE: N.T.S. = 1'-0" (3/SE301)



RETAINING WALL AT DOCK

SCALE: N.T.S. = 1'-0" (2/SE301)

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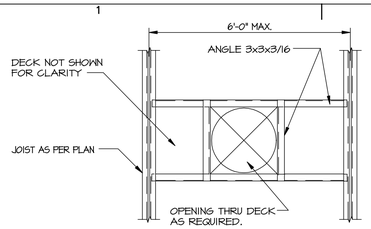
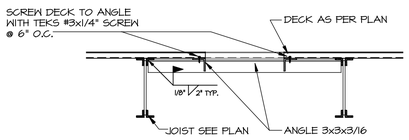
SECTIONS

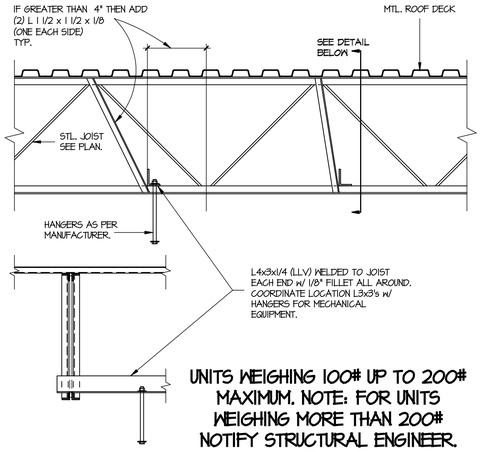
SE301





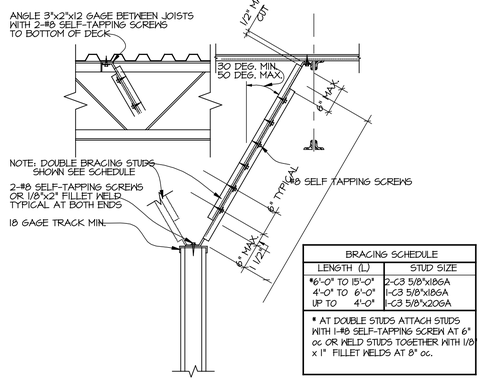
TYPICAL CONDITION REQUIRED AT ROOF AREA WITH LOADS OF 50# OR LESS AND AT ALL ROOF DRAINS.

SCALE: N.T.S. = 1'-0" (1 / SE501)



UNITS WEIGHING 100# UP TO 200# MAXIMUM. NOTE: FOR UNITS WEIGHING MORE THAN 200# NOTIFY STRUCTURAL ENGINEER.

SCALE: N.T.S. = 1'-0" (2 / SE501)

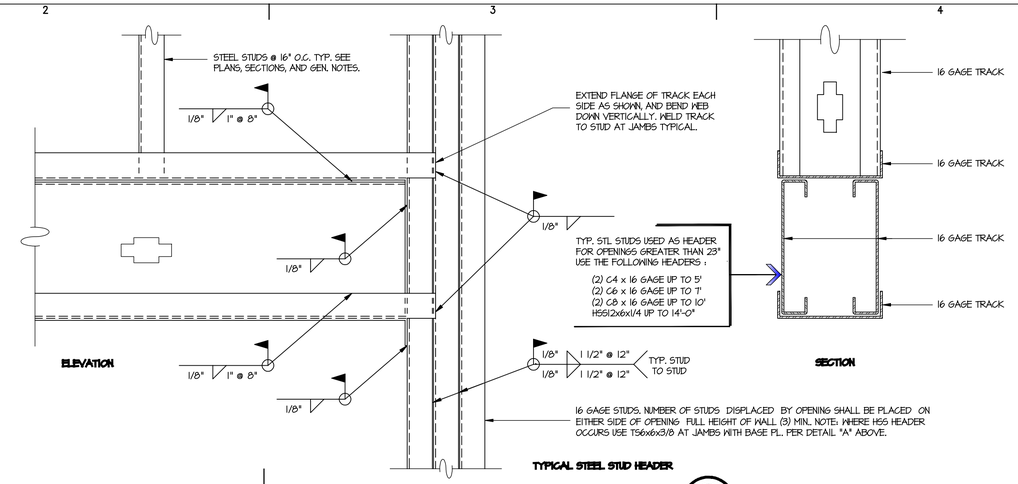


BRACING SCHEDULE	
LENGTH (L)	STUD SIZE
*6'-0" TO 15'-0"	2-C3 5/8"x18GA
4'-0" TO 6'-0" UP TO 4'-0"	1-C3 5/8"x18GA
	1-C3 5/8"x20GA
* AT DOUBLE STUDS ATTACH STUDS WITH 1-#8 SELF-TAPPING SCREW AT 6" oc OR WELD STUDS TOGETHER WITH 1/8 x 1" FILLET WELDS AT 8" oc.	

START 4'-0" FROM CORNERS, PLACE BRACING ON ALTERNATE SIDES AT 8'-0" O.C.

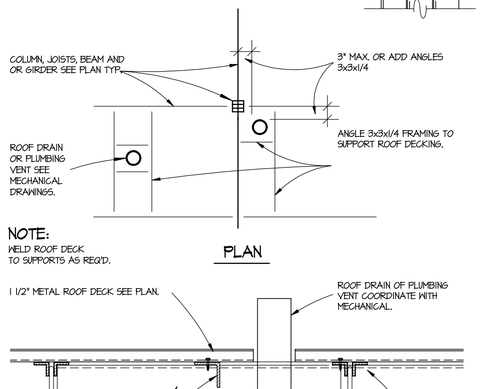
TYPICAL BRACING OF A NON-BEARING STEEL STUD PARTITION WALL

SCALE: N.T.S. = 1'-0" (3 / SE501)



TYPICAL STEEL STUD HEADER

SCALE: N.T.S. = 1'-0" (6 / SE501)

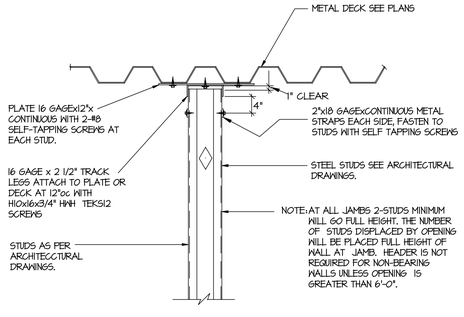


NOTE:
WELD ROOF DECK TO SUPPORTS AS REQ'D.

PLAN

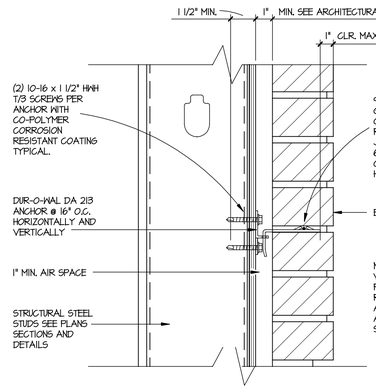
TYPICAL ROOF PENETRATION FOR ROOF DRAINS OR VENTING.

SCALE: N.T.S. = 1'-0" (4 / SE501)



SUPPORT OF NON-BEARING STUD WALLS

SCALE: N.T.S. = 1'-0" (5 / SE501)



TYPICAL BRICK VENEER ATTACHMENT TO STEEL STUDS

SCALE: N.T.S. = 1'-0" (7 / SE501)

WELD CONTINUOUS ANGLE TO EACH STUD WITH 1/8" FILLET x 1 1/2" TOP AND BOTTOM.

WELD STUDS TOGETHER WITH 1/8" FILLET x 1" @ 2" O.C. 3" MIN. ALL AROUND (EACH SIDE OF STUD). PLACE STUD WEBS BACK TO BACK WHEN POSSIBLE.

WELD STUD FLANGES TO TRACK OR BENT PLATE WITH 1/8" FILLET x 1 1/2" AT EACH FLANGE. NOTE: WELD STUD FLANGES TO ANGLES WITH 1/8" FILLET x 1 1/2" EACH SIDE OR TOP AND BOTTOM.

WELD STUD WEBS TO BENT PLATE OR CLIP ANGLE WITH 1/8" FILLET x 1" @ 2" O.C. ALL AROUND.

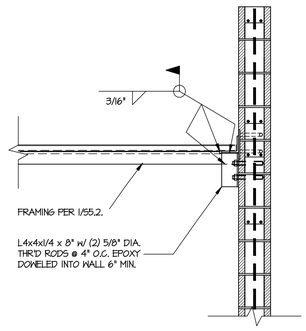
DOUBLE STUDS TO BE WELDED TOGETHER WITH 1/8" FILLET x 2" @ 8" O.C. EACH SIDE.

WELD CONTINUOUS TRACKS TOGETHER WITH 1/8" FILLET x 2" @ 8" O.C. EACH SIDE.

WELD CONTINUOUS TRACKS TO T5 (K-BRACES), WIDE FLANGE BEAM, OR OHTER TYPE OF CONT. PL. WITH 1/8" FILLET x 1 1/2" @ 16" O.C. EACH SIDE & CENTERED ON VERT. STUDS.

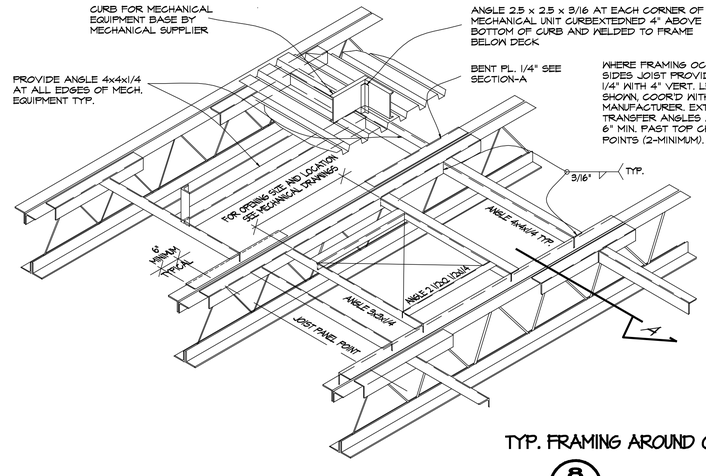
TYP. STL. STUD, TRACK, AND BENT PL. WELDING:

SCALE: N.T.S. = 1'-0" (9 / SE501)



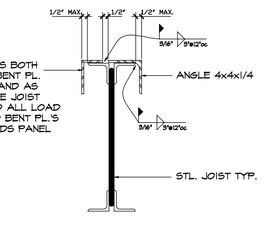
TYPICAL WHERE FRAMING AROUND MECH. UNIT OR OPENINGS PER 1/S5.2 EXTENDS TO MASONRY WALL

SCALE: N.T.S. = 1'-0" (10 / SE501)



TYP. FRAMING AROUND OPENINGS IN METAL DECK

SCALE: N.T.S. = 1'-0" (8 / SE501)



A

WHERE FRAMING OCCURS BOTH SIDES JOIST PROVIDE BENT PL. 1/4" WITH 4" VERT. LEG AND AS SHOWN, COOR'D WITH THE JOIST MANUFACTURER. EXTEND ALL LOAD TRANSFER ANGLES AND BENT PL.'S 6" MIN. PAST TOP CHORDS PANEL POINTS (2-MINIMUM).

NOTE: FOR OPININGS SMALLER THAN 6" USE 14 GAGE SHEET METAL REINFORCING TYPICAL. EXTEND 12" PAST OPENING FASTENED WITH 2-#8 SCREWS AT 6" O.C. EACH WAY.

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TYPICAL DETAILS

SE501

LEGEND OF MECHANICAL SYMBOLS AND ABBREVIATIONS

MECHANICAL

- POSITIVE PRESSURE DUCT – RISE
- POSITIVE PRESSURE DUCT – DROP
- NEGATIVE PRESSURE DUCT – RISE
- NEGATIVE PRESSURE DUCT – DROP
- ROUND DUCT – RISE
- ROUND DUCT – DROP
- UNDER FLOOR DUCT
- TURNING VANES
- FRESH AIR LOUVER
- RELIEF AIR OR EXHAUST AIR LOUVER
- 12X12 200 – CEILING SUPPLY DIFFUSER
- 22X22 200 – CEILING RETURN REGISTER
- 12X12 200 – CEILING EXHAUST REGISTER, (BALANCE TO MATCH SUPPLY IF RETURN CFM IS NOT SHOWN)
- 24X10 200 – SIDEWALL SUPPLY REGISTER
- 24X10 200 – SIDEWALL EXHAUST OR RETURN REGISTER
- 12X12 200 – CEILING SUPPLY DIFFUSER WITH FLEXIBLE DUCT
- 12X12 200 – CEILING AIR GRILLE WITH FLEXIBLE DUCT

  (TOP FIGURES INDICATE NECK SIZE. BOTTOM FIGURE INDICATES CFM.)
- CEILING RETURN AIR GRILE W/ SOUND BOOT
- 1" SLOTS 48 400 – LINEAR DIFFUSER WITH PLENUM AND FLEXIBLE DUCT CONNECTION. NO. OF SLOTS & SIZE OF SLOT ON TOP, ACTIVE LENGTH AND CFM ON BOTTOM
- FLEXIBLE DUCT CONNECTION
- FLEXIBLE DUCT
- FAN
- 12/8 FO – FLAT OVAL DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES.
- 12/8 – RECTANGULAR DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES.
- 12ø – ROUND DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES.
- UP – INCLINED RISE
- DN – INCLINED DROP

  (WITH RESPECT TO AIR FLOW 15° NOMINAL INCLINE WITH RADIUS TURNS=DEPTH OF DUCT.)
- W R – R/W=1. ROUND DUCT SIMILAR TO RECTANGULAR
- 12/12 8/8 – RECTANGULAR TO RECTANGULAR OR ROUND TO ROUND DUCT TRANSFORMATION MAXIMUM 15° INCLUDED ANGLE EXCEPT WHERE SHOWN OTHERWISE.
- 12/12 12ø – RECTANGULAR TO ROUND DUCT TRANSFORMATION
- R – BRANCH DUCT SPLIT WITH 6" WIDTH AND MIN. R=WIDTH OF BRANCH DUCT DOWNSTREAM. ELBOW TURNING VANE OPTIONAL.
- 450 250 250 DIA – TAP ENTRY AREA EQUALS 150% OF BRANCH AREA
- 12ø 12/12 – HIGH EFFICIENCY FITTING
- MANUAL VOLUME DAMPER
- FD – FIRE DAMPER IN DUCT, W/ ACCESS PANEL REQD.
- FSD – COMBINATION FIRE/SMOKE DAMPER W/ ACCESS PANEL
- SD – SMOKE DAMPER W/ ACCESS PANEL
- BDD – BACK DRAFT DAMPER
- ATC OR – ATC DAMPER
- AD – ACCESS PANEL IN DUCT OR PLENUM
- HEATING OR COOLING COIL IN DUCT
- SINGLE DUCT AIR TERMINAL BOX VARIABLE OR CONSTANT VOLUME. MIN. 1-1/2 TERMINAL INLET SIZE STRAIGHT DUCT AT TERMINAL INLET.
- 4-WAY BLOW PATTERN
- 3-WAY BLOW PATTERN
- 2-WAY BLOW PATTERN
- 2-WAY BLOW PATTERN
- 1-WAY BLOW PATTERN
- SD – DUCT SMOKE DETECTOR
- UNIT HEATER

PLUMBING

- FLOOR SINK
- FLOOR DRAIN
- FCO COTG – FLOOR CLEAN-OUT OR CLEAN-OUT TO GRADE
- ROOF DRAIN
- DOWNSPOUT NOZZLE
- ARROW INDICATES DIRECTION OF FLOW IN PIPE
- CHECK VALVE
- PRESSURE REDUCING, EXTERNAL PRESSURE VALVE
- PRESSURE REDUCING, SELF CONTAINED VALVE
- ATC VALVE – 2 WAY
- ATC VALVE – 3 WAY
- SOLENOID VALVE
- GATE VALVE
- GATE VALVE – NON RISING STEM
- GLOBE VALVE
- TEMPERATURE AND PRESSURE TEST PORT
- PS – PRESSURE SWITCH
- GAS COCK
- CBV GPM – CALIBRATED BALANCING VALVE WITH GPM INDICATED
- RPBP – REDUCED PRESSURE BACKFLOW PREVENTOR W/ DRAIN PAN
- BRANCH – BOTTOM CONNECTION
- BRANCH – TOP CONNECTION
- BRANCH – SIDE CONNECTION
- RISE OR DROP
- RISER – DOWN (ELBOW)
- RISER – DOWN (ELBOW)
- VTR – VENT THRU ROOF
- WATER HAMMER ARRESTOR
- INLINE PUMP
- IP – INLINE PUMP
- CLEAN-OUT
- RELIEF VALVE
- ANGLE VALVE
- FLOW METER
- UNION
- BALANCING COCK
- SHUT-OFF COCK FOR USE WITH PRESSURE GAUGE
- FLEXIBLE EXPANSION JOINT
- THERMOMETER – TEMP RANGE AS INDICATED
- PRESSURE GAUGE WITH SHUT-OFF COCK
- PRESSURE GAUGE WITH PIGTAIL
- LATERAL STRAINER WITH BLOW-OFF VALVE, PROVIDE HOSE END WITH CAP WHERE DISCHARGE IS NOT PIPED TO DRAIN
- BALL VALVE (PIPE SIZES 2" AND SMALLER) BUTTERFLY VALVE (PIPE SIZES 2-1/2" AND LARGER)
- MOTOR OPERATED BUTTERFLY VALVE
- VALVE IN RISE
- AIR VENT-MANUAL
- AIR VENT-AUTO
- FS – FLOW SWITCH
- REDUCER
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER

PLUMBING CONT.

- THERMOSTATIC MIXING VALVE
- HOSE BIBB
- PIPE CAP
- SWITCH
- SENSOR
- THERMOSTAT
- NIGHT THERMOSTAT
- FILL PORT
- DRAIN PAN AND P-TRAP
- (NAME) – FIXTURE FROM LEVEL ABOVE
- GPM, LB/HR – FLOW METER ORIFICE
- FLANGE
- 90° ELBOW
- STEAM TRAP, F&T=FLOAT & THERMOSTATIC 45 ELBOW
- F&T – B=BUCKET, T=THERMOSTATIC
- DN – LEADER INDICATES DOWNWARD SLOPE
- DEMOLITION
- ALIGNMENT GUIDE
- ANCHOR
- LUBRICATED PLUG COCK

SYMBOLS

- P-1 – PLUMBING FIXTURES
- POINT OF CONNECTION
- A / M-101 – SECTION TAG – TOP FIGURE IS SECTION NO. BOTTOM FIGURE IS SHEET NO.
- A / M101 – DETAIL TAG – TOP FIGURE IS DETAIL NO. BOTTOM FIGURE IS SHEET NO.
- EF / 1 – EQUIPMENT IDENTIFICATION
- 1 – KEYED NOTE IDENTIFICATION

FIRE

- HOSE VALVE
- NRS GATE VALVE WITH SUPERVISION
- FLOW SWITCH
- FIRE RISER
- SPRINKLER HEAD
- FIRE SPRINKLER WATER

LINETYPES

- AV – ACID VENT
- AW – ACID WASTE
- BBD – BOILER BLOW DOWN
- BF – BOILER FEED WATER
- B – BRINE
- CO2 – CARBON DIOXIDE
- CA – COMPRESSED AIR
- CF – CHEMICAL FEED
- CHWS – CHILLED WATER SUPPLY
- CHWR – CHILLED WATER RETURN
- CS – CONDENSER WATER SUPPLY
- CR – CONDENSER WATER RETURN
- DOMESTIC COLD WATER (DCW)
- DOMESTIC HOT WATER (DHW)
- DOMESTIC HOT WATER RETURN (DHWR)
- DI – DEIONIZED WATER SUPPLY
- DIR – DEIONIZED WATER RETURN
- E(NAME) – EXISTING PIPING
- (NAME) – EXISTING PIPING TO BE REMOVED
- GHR – GLYCOL HEAT RECOVERY PIPING
- G(NAME) – GLYCOL PIPING SOLUTION
- FOR – FUEL OIL RETURN
- FOS – FUEL OIL SUPPLY
- FOV – FUEL OIL VENT
- G – NATURAL GAS
- HG – HOT GAS
- HFR – HELICOPTER FUEL RETURN
- HFS – HELICOPTER FUEL SUPPLY
- HP(NAME) – HIGH PRESSURE DOMESTIC WATER
- HPC – HIGH PRESSURE CONDENSATE
- HPS – HIGH PRESSURE STEAM
- HWR – HEATING HOT WATER RETURN
- HWS – HEATING HOT WATER SUPPLY
- IA – INSTRUMENT AIR
- IA 120 – INSTRUMENT AIR AT PRESSURE INDICATED
- LA – LAB AIR
- LV – LAB VACUUM
- LPC – LOW PRESSURE CONDENSATE
- LPG – LIQUIFIED PETROLEUM GAS
- LPS – LOW PRESSURE STEAM
- MA – MEDICAL AIR
- MA 120 – MEDICAL AIR AT PRESSURE INDICATED
- MPC – MEDIUM PRESSURE CONDENSATE
- MPS – MEDIUM PRESSURE STEAM
- MUW – MAKE UP WATER
- MV – MEDICAL VACUUM
- N – NITROGEN
- N2O – NITROUS OXIDE
- OX – MEDICAL OXYGEN
- OX 120 – MEDICAL OXYGEN AT PRESSURE INDICATED
- PUMPED CONDENSATE

LINETYPES CONT.

- RO – REVERSE OSMOSIS WATER SUPPLY
- ROR – REVERSE OSMOSIS WATER RETURN
- RD – ROOF DRAIN
- RDO – ROOF DRAIN OVERFLOW
- RL – REFRIGERANT LIQUID
- RS – REFRIGERANT SUCTION
- SEWER (BELOW GRADE)
- SEWER (ABOVE GRADE)
- SW – SOFT DOMESTIC WATER (SW)
- V – VACUUM
- VENT (SEWER)

MECHANICAL GENERAL NOTES

1. PROVIDE BALANCING DAMPER AT EACH BRANCH TAKE-OFF TO SERVE DIFFUSER OR GRILLE AS WELL AS WHERE INDICATED.
2. COORDINATE EXACT LOCATION OF DUCTS WITH STRUCTURAL MEMBERS, LIGHTS, REFLECTED CEILING, CABLE TRAY, PLUMBING, MECHANICAL PIPING, FIRE PROTECTION, ETC.
3. BRANCH DUCTWORK SHALL BE SIZED TO MATCH THE NECK SIZE OF THE DIFFUSER, REGISTER OR GRILLE IT SERVES UNLESS NOTED OTHERWISE, TYPICAL.
4. COORDINATION DRAWING SUBMITTALS ARE REQUIRED FOR THIS SHEET.
5. SEE ARCHITECTURAL PLANS FOR EXACT LOCATION OF ALL REGISTERS, DIFFUSERS AND GRILLES.
6. INSTALL ALL HARD ELBOWS AS SHOWN. HARD ELBOWS ARE REQUIRED FOR SOUND ATTENUATION.
7. INSTALL EQUIPMENT WITH CLEARANCE PER MANUFACTURERS RECOMMENDATIONS. MAINTAIN PROPER SPACE FOR COIL PULL, CONTROLS, AND MAINTENANCE ACCESS.
8. ALL BRANCH TAKE-OFFS TO HAVE A HIGH EFFICIENCY FITTING. SEE DETAIL.
9. INSTALL TURNING VANES IN ALL SQUARE LOW PRESSURE DUCTWORK.
10. DETAILS REFERENCE ALL SHEETS.
11. UNLESS OTHERWISE NOTED, ALL SUPPLY DIFFUSERS SHALL BE OF THE CD-1 TYPE, ALL RETURN GRILLES SHALL BE OF THE RG-1 TYPE AND ALL EXHAUST GRILLES SHALL BE OF THE EX-1 TYPE.

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LICENSED PROFESSIONAL ENGINEER
No. 4775391
SPENCER W. HOWELL
STATE OF UTAH

UVSC - STUDENT CENTER ADDITION

OREM, UTAH

CONSTRUCTION DOCUMENTS

Revision # Date

Axis Job # 0721
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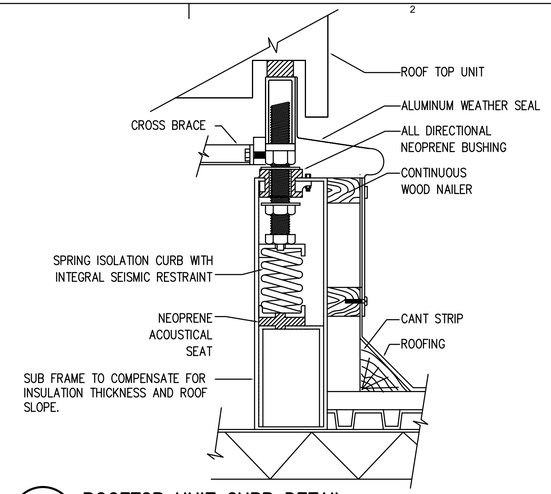
Date 5-30-2008
Drawn EL
Checked WB

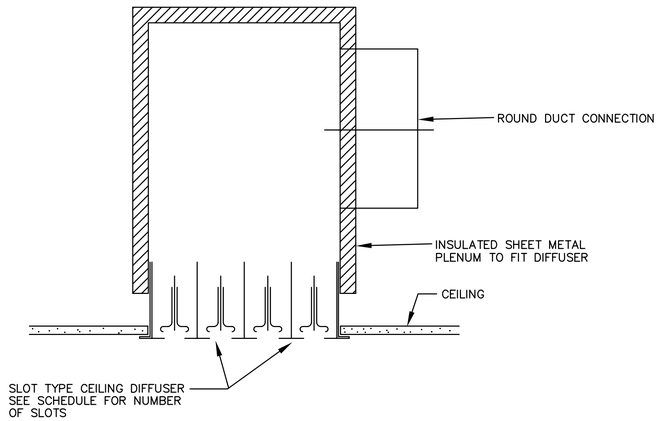
MECHANICAL SYMBOLS

ME001



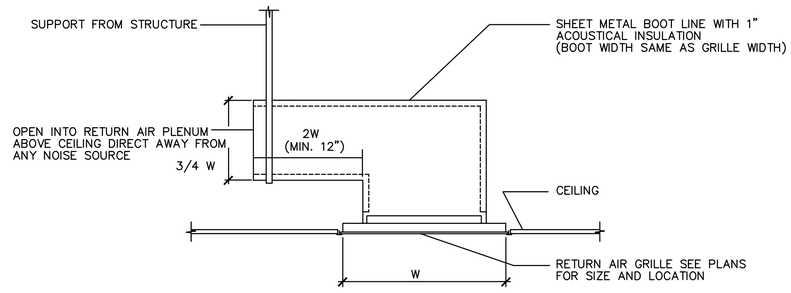
3 ME501 **ROOFTOP UNIT CURB DETAIL**

NO SCALE



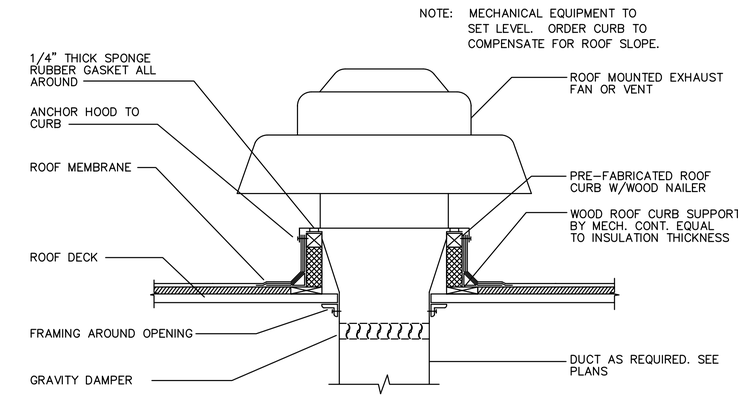
1 ME501 **SLOT DIFFUSER DETAIL**

NO SCALE



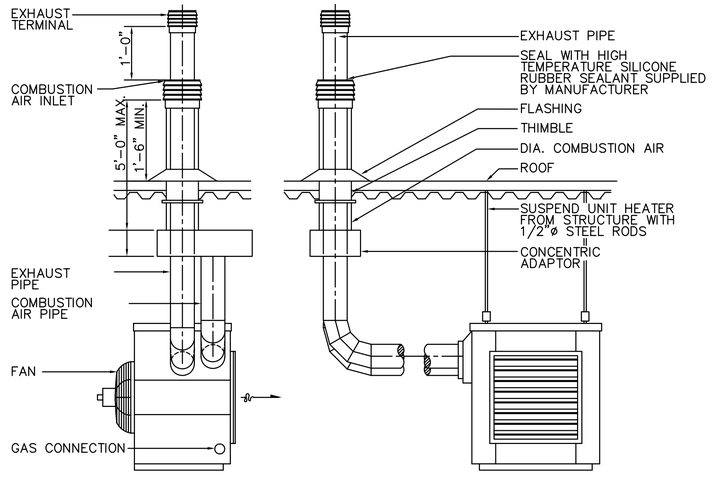
5 ME501 **RETURN AIR SOUND BOOT DETAIL**

NO SCALE



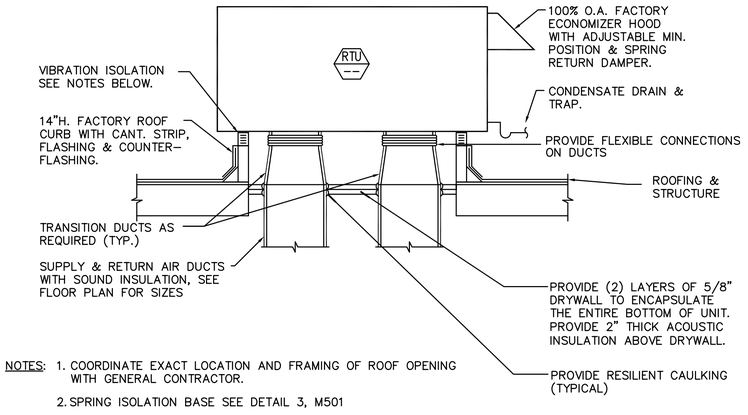
2 ME501 **ROOF MOUNTED EXHAUST FAN DETAIL**

NO SCALE



6 ME501 **GAS FIRED UNIT HEATER**

NO SCALE



NOTES: 1. COORDINATE EXACT LOCATION AND FRAMING OF ROOF OPENING WITH GENERAL CONTRACTOR.

2. SPRING ISOLATION BASE SEE DETAIL 3, M501

4 ME501 **ROOFTOP UNIT DETAIL**

NO SCALE

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LICENSED PROFESSIONAL ENGINEER
No. 4775391
SPENCER W. HOWELL
STATE OF UTAH

UVSC - STUDENT CENTER ADDITION

OREM, UTAH

CONSTRUCTION DOCUMENTS

Revision #	Date

Axis Job #	0721
Owner #	
Date	5-30-2008
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Checked	WB

MECHANICAL DETAILS

ME501

PACKAGED ROOFTOP UNIT SCHEDULE

ID	MANUFACTURER	MODEL NO.	AREA SERVED	SUPPLY FAN AIRFLOW RATE (CFM)	SUPPLY FAN EXT. S.P. (IN. H2O)	SUPPLY FAN OA (CFM)	HEATING NATURAL GAS EAT (°F)	HEATING NATURAL GAS LAT (°F)	HEATING NATURAL GAS MBH INPUT (2) 1ST STG.	HEATING NATURAL GAS MBH INPUT (2) 2ND STG.	HEATING NATURAL GAS OUTPUT (2) 2ND STG.	COOLING (3) EVAPORATOR EAT DB (°F)	COOLING (3) EVAPORATOR EAT WB (°F)	COOLING (3) EVAPORATOR LAT DB (°F)	COOLING (3) EVAPORATOR LAT WB (°F)	CAPACITY TOTAL (MBH)	CAPACITY SENS. (MBH)	SEER (6)	FILTER MERV	ELECTRICAL MCA	ELECTRICAL MOCP	ELECTRICAL SUPPLY FAN MOTOR (HP)	ELECTRICAL SINGLE POINT VOLT/PH/HZ	WEIGHT (LBS.) (5)	SOUND RATING (7) DISCH. (A-Wt. dB)	SOUND RATING (7) OUTDOOR (A-Wt. dB)	NOTES
RTU-1	CARRIER	48PGL-06	RM. 103 NORTH	1,500	1.00	260	59.5	94.8	52.5	75.0	48.6	78.6	64.0	52.0	50.6	54.6	36.5	14.6	7	30.1	45	0.69	208-3-60	1,100	74.4	78.0	1, 3, 4
RTU-2	CARRIER	48PGL-05	RM. 103 SOUTH	1,150	1.00	260	55.7	101.8	52.5	75.0	48.6	79.8	64.0	52.8	51.0	42.7	29.6	14.8	7	25.4	30	0.51	208-3-60	1,100	72.6	72.0	1, 3, 4

1. CAPACITIES AT 4,500 FT. ELEVATION.
2. INPUT AT SEA LEVEL. OUTPUT AT 4,500 FT. ELEVATION
3. CONDENSER ENTERING AIR DRY BULB TEMP. = 95F. R-410A REFRIGERANT.
4. 100% ECONOMIZER, 100% MODULATING POWERED RELIEF; STAINLESS STEEL HEAT EXCHANGER; PROVIDE SPRING ISOLATION BASE WITH KIT TO ENCLOSE ENTIRE CURB WITH GYP. BD. FOR SOUND CONTROL.
5. MANUFACTURE'S LIST WEIGHT INCLUDING SPECIFIED ACCESSORIES.
6. SEER RATING DETERMINED PER ARI STANDARDS 210-94 AND 360-95.
7. SOUND RATING DETERMINED PER ARI STANDARDS 270-2001 AND 370-2001.

GAS UNIT HEATER SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	USE TYPE	VENT CONN./ COMB. AIR (IN) (2)	AIRFLOW RATE (CFM) (1)	INPUT HEATING LOAD (MBH) (1)	OUTPUT HEATING LOAD (MBH) (1)	ELECTRICAL FAN MOTOR HP	ELECTRICAL FAN MOTOR RPM	ELECTRICAL MOCP	ELECTRICAL VOLT/PH/HZ	WEIGHT (LBS)	NOTES
UH-1	REZNOR UDAS-45	STORAGE	NATURAL GAS	HEATING	4 / 4	629	45	30.6	1/30	1550	15	120/1/60	75	(1) (3)

1. GAS HEATING INPUT AT SEA LEVEL, ALL OTHER CAPACITIES AT PROJECT ELEVATION = 4,500 FT.
2. SEALED COMBUSTION.
3. DIRECT DRIVE OPEN MOTOR WITH INTEGRAL OVERLOAD PROTECTION WITH BUILT IN DISCONNECT.

EXHAUST FAN SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	AREA SERVED	AIR MAXIMUM AIRFLOW RATE (CFM)	AIR STATIC PRESSURE (IN. WATER)	FAN SPEED (RPM)	ELECTRICAL MOTOR SIZE (HP)	ELECTRICAL MOTOR BHP (HP)	ELECTRICAL MOTOR SPEED (RPM)	ELECTRICAL VOLT/PH/HZ	PHYSICAL WEIGHT	PHYSICAL SONES	NOTES
EF-1	LOREN COOK ACE-B 100	STORAGE RM. 102	700	0.25	1,472	1/6	0.09	1,750	120 / 1 / 60	100	8.4	1, 2, 3

1. ALL CAPACITIES AT 4,500 FEET ELEVATION.
2. ROOF MOUNT EXHAUST FAN, COMPETE WITH FACTORY PRE-FAB CURB, BELT DRIVE MOTOR, GRAVITY BACKDRAFT DAMPER, BIRD SCREEN, AND INTEGRAL THERMAL OVERLOAD PROTECTION. DISCONNECT BY DIV. 16.
3. CONTROL: BY ATC.

DRYER BOOSTER FAN SCHEDULE

ID	MANUF. AND MODEL NO.	LOCATION	SERVICE	FAN TOTAL AIR FLOW RATE (CFM)	FAN TOT. STATIC PRESSURE DROP (IN H20)	MOTOR WATTS	MOTOR VOLT/PH	NOTES
BF-1	ALDES	A-4HP	LOCKER RM.	120	0.1	80	112/1/60	1, 2, 3

1. ALL CAPACITIES AT 4500 FT. ELEVATION.
2. INLINE DRYER BOOSTER FAN: BACKWARD CURVED INLINE FAN, THERMAL OVERLOAD PROTECTION AND DISCONNECT SWITCH, AND MOUNTING BRACKET.
3. PROVIDE DRYER OPERATION PRESSURE SENSOR WITH TIMER/SWITCH.

GRILLES, REGISTERS AND DIFFUSERS

ID	MANUFACTURER	MODEL	MAX NC	DESCRIPTION
CD-1	EH PRICE	SDS 100	30	2 SLOT LINEAR CEILING DIFFUSER WITH FULLY ADJUSTABLE AIR PATTERN AND FLOW CONTROL VANES FOR ONE OR TWO WAY THROW PATTERN. UNITS SHALL HAVE 1" SLOTS AND INSULATED PLENUM WITH ROUND DUCT CONNECTION. FOR SURFACE OR LAY-IN MOUNTING AS REQ'D.
RG-1	EH PRICE	PDDR	30	PERFORATED FACE RETURN AIR UNIT, REMOVABLE FACE & CORE. FRAME SHALL BE FOR SURFACE OR LAY-IN MOUNTING AS REQUIRED BY CEILING TYPE. LAY-IN FRAMES SHALL BE 24"X24", 24"X12" OR 12" x 12" AS REQUIRED TO FIT CEILING TILE SPACE AVAILABLE. AIR QUANITITY SHALL MATCH EXHAUST AIR
EG-1	EH PRICE	PDDR	30	PERFORATED FACE EXHAUST AIR UNIT, REMOVABLE FACE & CORE. FRAME SHALL BE FOR SURFACE OR LAY-IN MOUNTING AS REQUIRED BY CEILING TYPE. LAY-IN FRAMES SHALL BE 24" x 24", 24" x 12" OR 12"x12" AS REQUIRED TO CEILING TILE SPACE AVAILABLE.
SWR-1	EH PRICE	535	30	SIDEWALL RETURN AIR GRILLE. HORIZONTAL STATIONARY 45 DEGREE DEFLECTION VANES ON 1/2 INCH CENTER.

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LICENSED PROFESSIONAL ENGINEER
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SPENCER W. HOWELL
STATE OF UTAH

UVSC - STUDENT CENTER ADDITION
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CONSTRUCTION DOCUMENTS

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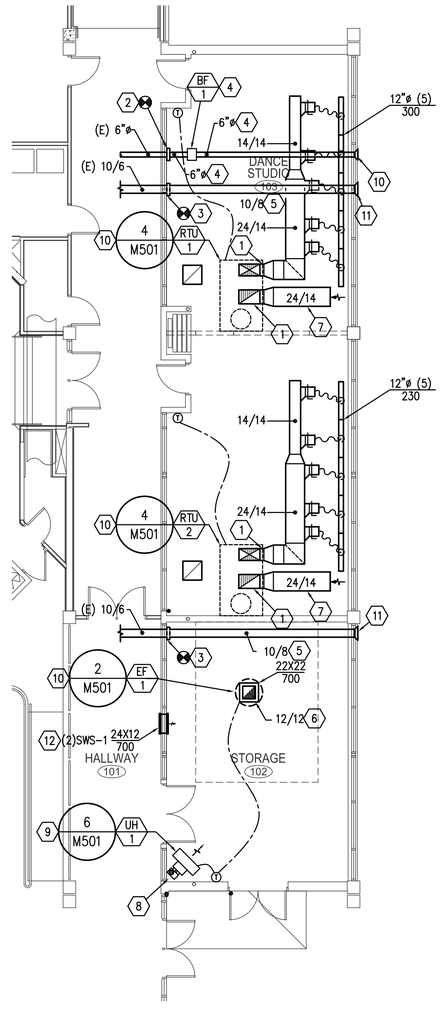
Drawn EL
Checked WB

MECHANICAL SCHEDULES

ME601

KEYED NOTES

1. PROVIDE TRANSITION FROM RTU OPENING TO DUCT.
2. REMOVE GRILLE FROM EXISTING DRYER VENT. RETAIN FOR REUSE ON NEW VENT.
3. REMOVE GRILLE FROM EXISTING EXHAUST DUCT. RETAIN FOR REUSE ON NEW EXHAUST.
4. CONNECT NEW DRYER VENT TO EXISTING, EXTEND TO BEAM POCKET IN NEW EXTERIOR WALL, PROVIDE TRANSITION AT NEW BOOSTER FAN, PROVIDE OFFSETS AS NECESSARY TO CLEAR NEW SUPPLY DUCT.
5. PROVIDE TRANSITION FROM EXISTING EXHAUST DUCT, FIELD DETERMINE ACTUAL SIZE. EXTEND DUCT TO BEAM POCKET IN NEW EXTERIOR WALL, PROVIDE OFFSETS AS NECESSARY TO CLEAR NEW SUPPLY DUCT.
6. PROVIDE TRANSITION FROM EXHAUST DUCT TO FAN INLET.
7. PROVIDE 6 FT. MIN. LINED DUCT ON RETURN AIR TO RTU'S.
8. PROVIDE FACTORY CONCENTRIC EXHAUST FLUE/COMBUSTION AIR DUCT WITH MFG. RECOMMENDED CAP.
9. MOUNT CEILING UNIT TIGHT TO NEW CEILING.
10. REINSTALL WALL GRILLE RETAINED FROM ORIGINAL DRYER VENT.
11. REINSTALL WALL GRILLE RETAINED FROM ORIGINAL EXHAUST DUCT.
12. LOCATE TRANSFER DUCT, WITH GRILLES ON BOTH SIDES OF THE WALL, IN BEAM POCKET IN EXISTING WALL.



A4 DANCE & STORAGE MECHANICAL PLAN

SCALE: 1/8"=1'-0"

PROJECT NORTH

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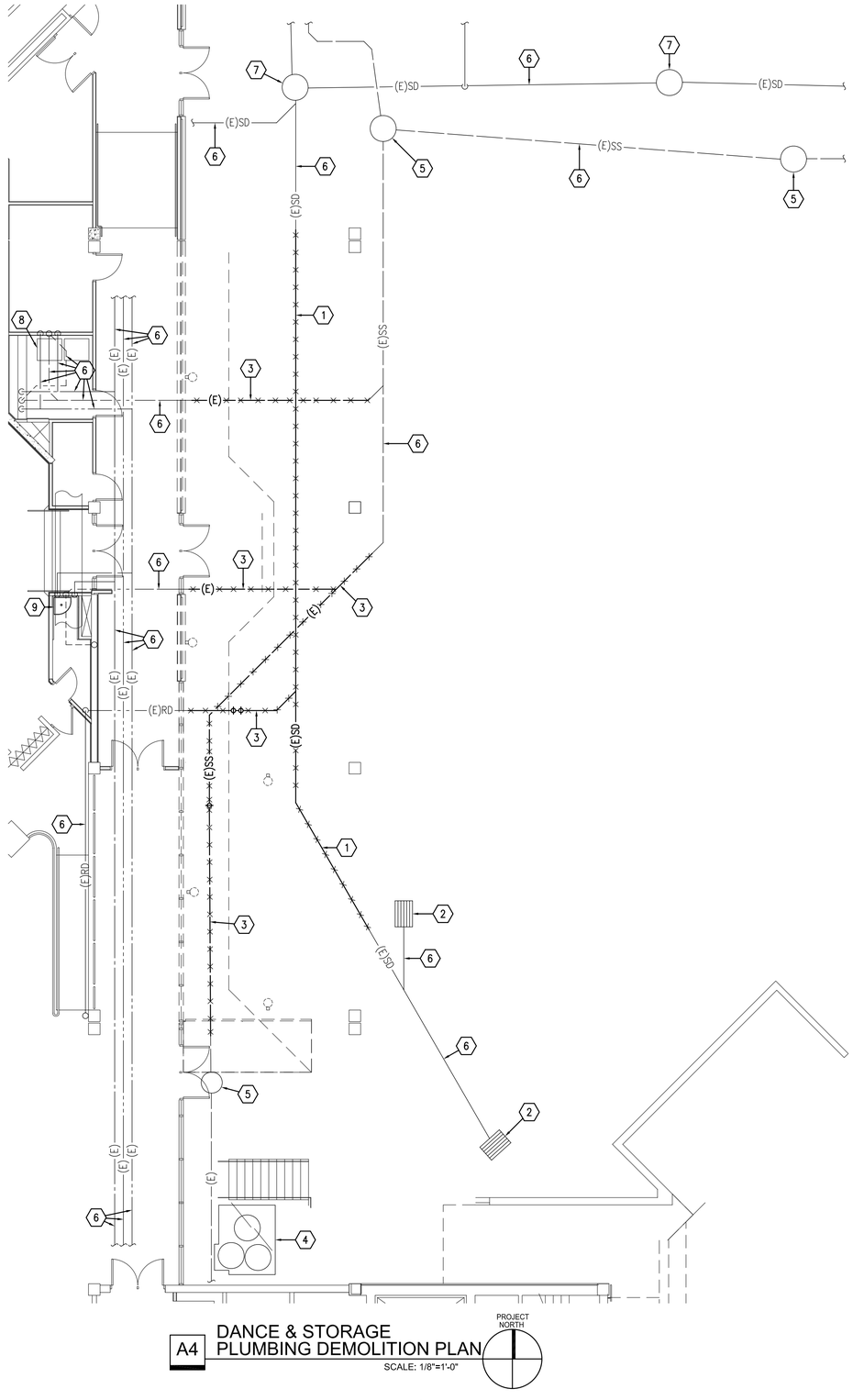
MECHANICAL PLAN

MH101



A4 DANCE & STORAGE PLUMBING DEMOLITION PLAN

SCALE: 1/8"=1'-0"

PROJECT NORTH

KEYED NOTES

1. REMOVE EXISTING STORM DRAIN LINE LOCATED BENEATH NEW ADDITION AND REPLACE WITH NEW LINE. SEE P101.
2. EXISTING CATCH BASIN TO REMAIN.
3. REMOVE EXISTING SANITARY SEWER LINE BENEATH NEW ADDITION AND REPLACE WITH NEW LINE. SEE P101.
4. EXISTING GREASE SEPARATOR TO REMAIN.
5. EXISTING SANITARY SEWER MANHOLE TO REMAIN.
6. EXISTING PIPING TO REMAIN.
7. EXISTING STORM DRAIN MANHOLE TO REMAIN.
8. EXISTING WASHER AND RELATED PIPING TO REMAIN.
9. EXISTING SINK AND RELATED PIPING TO REMAIN.

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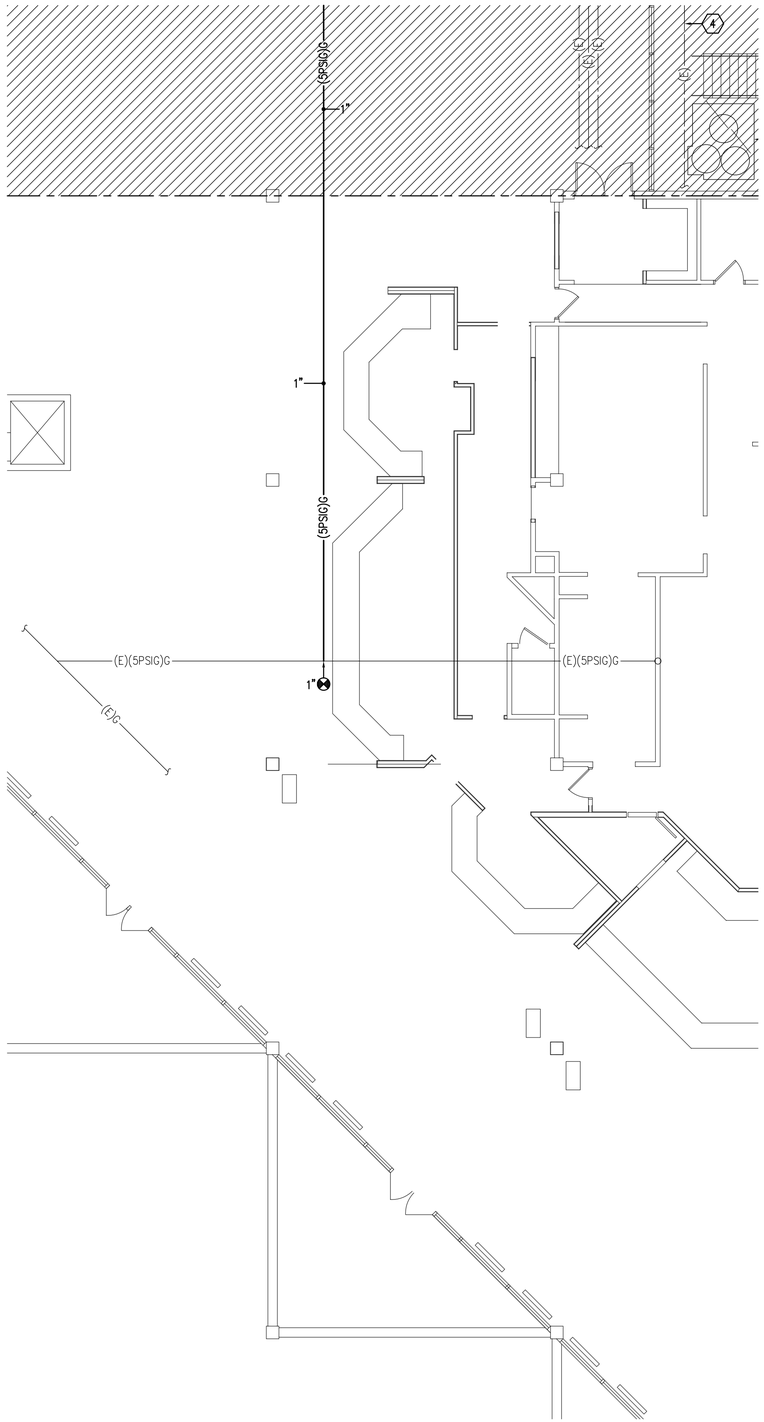
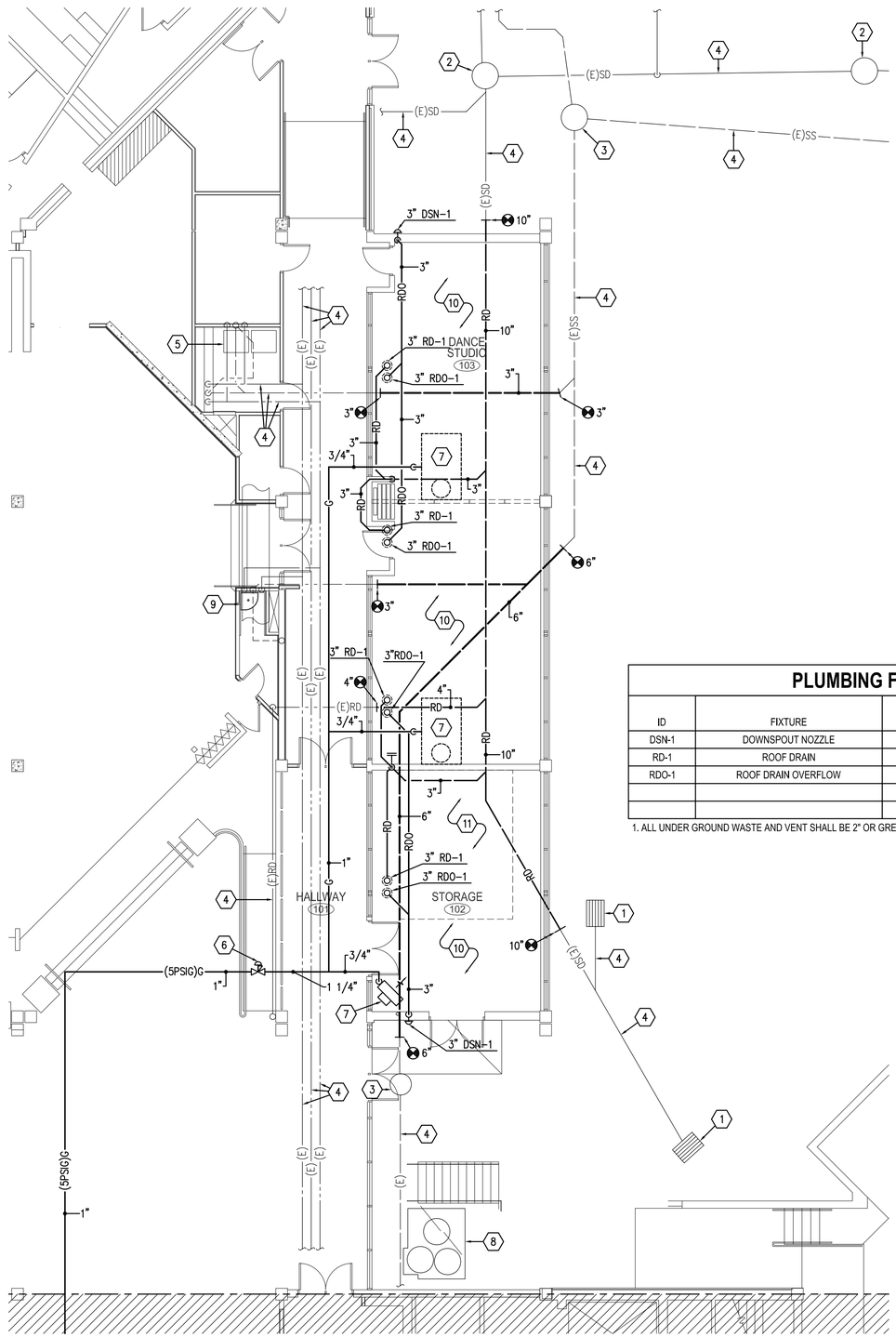
PLUMBING DEMOLITION PLAN

PD101





KEYED NOTES

1. EXISTING CATCH BASIN TO REMAIN.
2. EXISTING STORM DRAIN DRAIN MANHOLE TO REMAIN.
3. EXISTING SANITARY SEWER MANHOLE TO REMAIN.
4. EXISTING PIPING TO REMAIN.
5. EXISTING WASHER AND RELATED PIPING TO REMAIN.
6. (5PSIG) TO 4 OZ. GAS PRESSURE REGULATOR 225 CFH, VENT TO OUTSIDE.
7. MECHANICAL EQUIPMENT. SEE MECHANICAL DRAWINGS.
8. EXISTING GREASE SEPARATOR TO REMAIN.
9. EXISTING SINK AND RELATED PIPING TO REMAIN.
10. PROVIDE FIRE SPINKLER COVERAGE IN NEW ADDITION. CONNECT TO EXISTING FIRE SPRINKLER MAIN. PROVIDE QUICK RESPONSE SPRINKLER HEADS THAT MATCH EXISTING CONTRACTOR TO FIELD VERIFY EXISTING SYSTEM.
11. PROVIDE DRY PENDENT SPRINKLER HEAD IN WALK-IN REFRIGERATOR.

PLUMBING FIXTURE SCHEDULE

ID	FIXTURE	CW (IN)	HW (IN)	W (IN)	V (IN)	NOTES
DSN-1	DOWNSPOUT NOZZLE					SEE PLANS
RD-1	ROOF DRAIN					SEE PLANS
RDO-1	ROOF DRAIN OVERFLOW					SEE PLANS

1. ALL UNDER GROUND WASTE AND VENT SHALL BE 2" OR GREATER PER DRAWINGS.

A1 DANCE & STORAGE PLUMBING PLAN
SCALE: 1/8"=1'-0"

A4 DANCE & STORAGE PLUMBING PLAN
SCALE: 1/8"=1'-0"

PROJECT NORTH

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PLUMBING PLAN

PP101

GENERAL NOTES

1. CONSULT ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF ALL LIGHTING FIXTURES.
2. VERIFY ALL EQUIPMENT DIMENSIONS AND LOCATIONS BEFORE BEGINNING ROUGH IN. CONSULT ALL APPLICABLE CONTRACT DRAWINGS AND SHOP DRAWINGS TO INSURE NEC CODE CLEARANCES REQUIRED AROUND ALL ELECTRICAL EQUIPMENT.
3. CONTRACTOR SHALL VERIFY ALL ELECTRICAL LOADS (VOLTAGE, PHASE, CONNECTION REQUIREMENTS, ETC.) OF EQUIPMENT FURNISHED UNDER DIVISION 15 WITH APPROVED MECHANICAL SHOP DRAWINGS BEFORE BEGINNING ROUGH IN.
4. SEE SECTION 16510 OF THE SPECIFICATION REQUIRED COORDINATION MEETINGS WITH MECHANICAL AND CEILING CONTRACTORS.
5. SEE APPLICABLE SHOP DRAWINGS FOR ROUGH IN LOCATION OF ALL EQUIPMENT, WIRING DEVICES, ETC. WHERE APPLICABLE MOUNT ALL WIRING DEVICES ABOVE BACK SPLASH EXCEPT THOSE SERVING UNDER COUNTER EQUIPMENT.
6. SEE SPECIFICATION FOR ENERGY SAVING LAMP AND BALLAST REQUIREMENTS.
7. FINISHES OF ALL LIGHT FIXTURES SHALL BE AS SELECTED BY ARCHITECT.
8. THE ELECTRICAL CONTRACTOR SHALL NOTIFY AND COOPERATE WITH THE MECHANICAL CONTRACTOR SUCH THAT NO PIPING, DUCTS, OR EQUIPMENT FOREIGN TO THE OPERATION OF THE ELECTRICAL EQUIPMENT SHALL BE PERMITTED TO BE INSTALLED IN, ENTER OR PASS THRU ELECTRICAL ROOMS OR SPACES, OR ABOVE OR BELOW ELECTRICAL EQUIPMENT IN OTHER AREAS.
9. ELECTRICAL BOXES SHALL NOT BE LOCATED IN MASONRY COLUMNS IN BRICK WALLS OR IN GROUTED CELLS ADJACENT TO OPENINGS. COORDINATE LOCATION OF BOXES WITH MASONRY CONTRACTOR.
10. ALL PENETRATIONS OF FIRE RATED FLOORS, WALLS, AND CEILINGS SHALL BE SEALED WITH APPROVED MATERIAL TO MAINTAIN FIRE RATING OF SURFACE PENETRATED.
11. CIRCUITS EXTENDING OVER 70' FOR 120 VOLT AND 165' FOR 277 VOLT 20 AMP CIRCUITS SHALL BE RUN WITH MINIMUM #10 CONDUCTORS.

DEMOLITION NOTES

1. COORDINATE ALL NEW ELECTRICAL EQUIPMENT REQUIREMENTS AND MAKE CONNECTION TO EXISTING SYSTEMS. THIS INCLUDES LIGHTING, POWER, SIGNAL, RACEWAY AND OTHER SYSTEMS INCLUDED UNDER DIVISION 16.
2. RELOCATE, REWIRE AND/OR RECONNECT EXISTING ELECTRICAL DEVICES AND/OR EQUIPMENT THAT FOR ANY REASON OBSTRUCTS CONSTRUCTION.
3. CONCEAL ALL RACEWAY AND WIRING IN EXISTING WALLS, CEILINGS, FLOORS, ETC. EXCEPT WHERE THE USE OF SURFACE METAL RACEWAYS (E.G. WIRE MOLD) IS INDICATED ON DRAWINGS OR IN SPEC.
4. LEAVE ALL EXISTING EQUIPMENT, IN PORTIONS OF THE BUILDING NOT BEING REMODELED, IN WORKING CONDITION. RESTORE ALL INTERRUPTED BRANCH CIRCUITS, FEEDERS, ETC. TO WORKING CONDITION.
5. EXISTING RACEWAYS MAY BE REUSED (IN PLACE) WHERE POSSIBLE, AND WHERE IN COMPLIANCE WITH THE SPECIFICATIONS AND THE INTENT OF THE CONTRACT DOCUMENTS. INSURE INTEGRITY OF EXISTING RACEWAY BEFORE REUSE.
6. REMOVE ALL RACEWAYS, CONDUCTORS, BOXES, DEVICES, EQUIPMENT, ETC. THAT ARE NOT TO BE REUSED.
7. REMOVE EXISTING LIGHT FIXTURES WHICH ARE NOT TO BE REUSED, PLACE IN CARTON, LABEL APPROPRIATELY, AND RETURN TO OWNER, OR PROPERLY DISPOSE OF FIXTURES THAT THE OWNER CHOOSES NOT TO KEEP.
8. DO NOT PENETRATE STRUCTURAL ELEMENTS OF FLOORS, WALLS, CEILINGS, ROOFS, ETC.
9. DISCONNECT AND RECONNECT ANY/ALL FIXTURES, DEVICES, EQUIPMENT, ETC. REQUIRED FOR PROPER COMPLETION OF THE WORK.

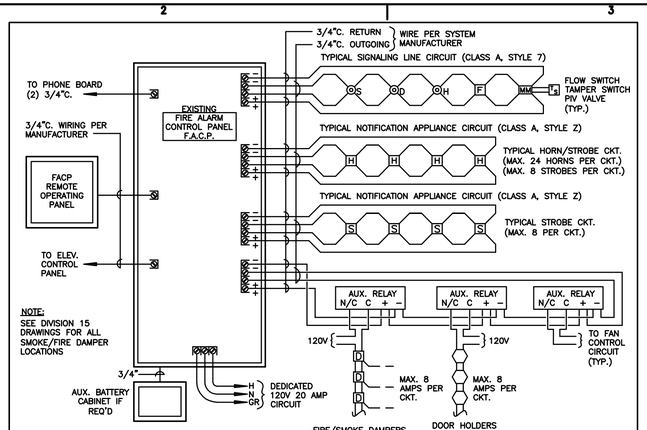

DIAGRAM D002 TYPICAL FIRE ALARM RISER
NTS

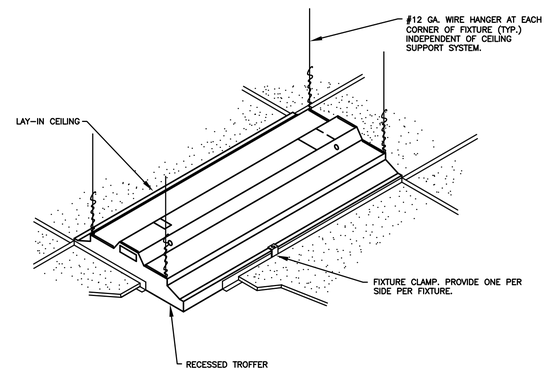

DIAGRAM A001 TYP. RECESSED FIXTURE MOUNTING
NTS

FIXTURE SCHEDULE

TYPE	DESCRIPTION	CATALOG NUMBER	VOLTS	LAMPS
A	2 X 4 LAY-IN; 2-LAMP; A12.125 ACRYLIC LENS CAM LATCHES	LITHONIA 2SPS G 232 A12125 277 EB	277	(2) F32 T8 835
B	2 X 2 LAY-IN INDIRECT; 2-LAMPS	LITHONIA 2AV G 217 SBL 277 EB	277	(2) F17 t8 835
X1	DIECAST EXIT LIGHT	LITHONIA LES W G 1 120/277	277	INCLUDE

EQUIPMENT SCHEDULE

UNIT #	FUNCTION	LOAD	VOLT	PHASE	FULL LOAD AMPS	CONDUIT SIZE	WIRES NO. SETS	WIRES NO.	WIRES SIZE	WIRES EQUIP. GND (1)	OCPD TYPE	OCPD AMPS	REF. NOTES STARTER	REF. NOTES DISCONNECT	REF. NOTES OTHER	REMARKS
BF-1	BOOSTER FAN	80 VA	120	1	0.67	3/4"	1	2	12	12	CB	15		4A		
EF-1	EXHAUST FAN	1/6 HP	120	1	4.40	3/4"	1	2	12	12	CB	15		4A		
RTU-1	ROOFTOP UNIT	30.1 MCA	208	3	24.08	3/4"	1	3	8	10	CB	45		2A		
RTU-2	ROOFTOP UNIT	25.4 MCA	208	3	20.32	3/4"	1	3	10	10	CB	30		2A		
UH-1	UNIT HEATER	1/20 HP	120	1	2.00	3/4"	1	2	12	12	CB	15		4A		

NOTES:
1. NON-FUSED DISCONNECT SWITCH
2. FUSED DISCONNECT SWITCH
3. BREAKER IN ENCLOSURE
4. MANUAL STARTER WITHERMAL OVERLOAD
5. MAGNETIC STARTER
6. MAGNETIC STARTER/NON-FUSED DISCONNECT COMBINATION
7. MAGNETIC STARTER/FUSED DISCONNECT COMBINATION
8. MAGNETIC STARTER/BREAKER COMBINATION
9. VARIABLE FREQUENCY DRIVE
10. REDUCED VOLTAGE STARTER
11. DIRECT CONNECTION
12. RECEPTACLE/SPECIAL PURPOSE OUTLET/ETC.
13. TWO-SPEED STARTER, COORDINATE W/MOTOR TYPE

A. FURNISHED, INSTALLED, AND CONNECTED UNDER DIVISION 16
B. FURNISHED AND INSTALLED UNDER ANOTHER DIVISION REQUIRING CONNECTION UNDER DIVISION 16.
C. FURNISHED UNDER ANOTHER DIVISION BUT INSTALLED AND CONNECTED UNDER DIVISION 16.
D. FURNISHED, INSTALLED AND CONNECTED UNDER ANOTHER DIVISION.

CB = CIRCUIT BREAKER - THERMAL MAGNETIC
CKW = CHILLER KILOWATTS

NOTE 1: PER 250.122(A), EQUIPMENT GROUND IS NOT REQUIRED TO BE LARGER THAN PHASE CONDUCTOR.

ELECTRICAL SYMBOL SCHEDULE

1. SEE FIXTURE SCHEDULE FOR TYPE, MOUNTING AND WATTAGE.
2. HEIGHT MEASURED TO CENTER LINE OF THE BOX FROM THE FINISH FLOOR.
3. REFER TO DRAWINGS FOR DIRECTIONAL ARROWS.
4. SUBSCRIPT KEYS SWITCH TO FIXTURES CONTROLLED.
5. NEMA TYPE 'ND' NON-FUSED UNLESS NOTED 'F' (FUSED). USE 'HD' 480 V.
6. HEIGHT TO BE THE LOWER OF EITHER 80" A.F.F. OR 6" BELOW CEILING.
7. PROVIDE H.O.A. AND S.S. PUSHBUTTONS AS REQUIRED.
8. DOUBLE ARROWS DENOTE A DOUBLE FACE UNIT.
9. COORDINATE WITH MILLWORK SHOP DRAWINGS AND ELEVATIONS FOR HEIGHT.
10. SUBSCRIPT DENOTES NEMA CONFIGURATION.
11. HEIGHT MEASURED TO BOTTOM OF THE BOX FROM FINISH FLOOR.

* TYPICAL SYMBOL SCHEDULE. SOME SYMBOLS MAY NOT BE USED IN THIS SET OF DRAWINGS.

STANDARD MOUNTING HEIGHT UNLESS OTHERWISE NOTED ON PLANS

SYMBOL	DESCRIPTION	MOUNTING HEIGHT	NOTES
	ONE CIRCUIT, TWO WIRE HOME RUN TO PANEL		
	2 CIRCUIT, 3 WIRE, COMMON NEUTRAL HOME RUN		
	3 CIRCUIT, 4 WIRE, COMMON NEUTRAL HOME RUN		
	CONDUIT RUN CONCEALED IN WALL OR CEILING		
	CONDUIT RUN CONCEALED IN FLOOR OR GROUND		
	CONDUIT UP		
	CONDUIT DOWN		
	CONDUIT STUB LOCATION	CAP CONDUIT	
	CABLE TRAY	AS NOTED	
	CEILING LIGHT FIXTURE	CEILING	1.
	WALL LIGHT FIXTURE	AS NOTED	1.
	RECESSED DOWNLIGHT FIXTURE	CEILING	1.
	FLUORESCENT LIGHT FIXTURE	AS NOTED	1
	FLUORESCENT EGRESS LIGHT FIXTURE	AS NOTED	UNSWITCHED
	AREA LIGHT POLE AND FIXTURE	CONCRETE BASE	SEE DIAGRAM
	FLOOD OR TRACK FIXTURE	AS NOTED	
	CEILING MOUNTED EXIT LIGHT	CEILING	1.3.8.
	WALL MOUNTED EXIT LIGHT	AS NOTED	1.3.8.
$	SINGLE POLE SWITCH	+4'–0"	2.
$°	SINGLE POLE SWITCH	+4'–0"	4. 2.
$3	THREE–WAY SWITCH	+4'–0"	2.
$4	FOUR–WAY SWITCH	+4'–0"	2.
$K	KEY OPERATED SWITCH	+4'–0"	2.
$P	SWITCH WITH PILOT LIGHT	+4'–0"	2.
$D	VARIABLE INTENSITY SWITCH	+4'–0"	2.
$TM	TIMER SWITCH	+4'–0"	2.
	MOMENTARY CONTACT SWITCH, CENTER POSITION OFF	+4'–0"	2.
	OCCUPANCY SENSOR	CEILING	
	OCCUPANCY SENSOR	+4'–0"	2.
PP	POWER PACK	CEILING	SEE DIAGRAM, SPEC.
A	AUTOMATIC RELAY PACK	CEILING	SEE DIAGRAM. SPEC.
T	LOW VOLTAGE TRANSFORMER		
	DUPLEX RECEPTACLE UPPER OUTLET SWITCH CONTROLLED	+16" OR AS NOTED	9. 11.
	SIMPLEX RECEPTACLE	+16" OR AS NOTED	9. 11.
	DUPLEX RECEPTACLE	+16" OR AS NOTED	9. 11.
A	DUPLEX RECEPTACLE		9.
W	ELECTRIC WATER COOLER RECEPTACLE		SEE DIAGRAM
WP	WEATHERPROOF RECEPTACLE	+24" OR AS NOTED	2. 9.
IG	ISOLATED GROUND RECEPTACLE	+16" OR AS NOTED	9. 11.
	GROUND FAULT INTERRUPTER DUPLEX RECEPTACLE	+16" OR AS NOTED	9. 11.
	DUPLEX RECEPTACLE EMERGENCY POWER (RED)	+16" OR AS NOTED	9. 11.
	FOURPLEX RECEPTACLE	+16" OR AS NOTED	9. 11.
	FOURPLEX RECEPTACLE EMERGENCY POWER (RED)	+16" OR AS NOTED	9. 11.
	FLOOR OUTLET WITH 20A DEVICE	FLOOR	
	MULTIPLE SERVICE FLOOR BOX	FLOOR	
	SPECIAL PURPOSE OUTLET	+16" OR AS NOTED	10. WITH CAP. 11.
	CORD DROP		SEE DIAGRAM
	PLUGMOLD	+46" OR AS NOTED	
	TELEVISION OUTLET	+16" OR AS NOTED	11.
	DATA OUTLET	+16" OR AS NOTED	9. 11.
	TELEPHONE OUTLET	+16" OR AS NOTED	9. 11.
	TELEPHONE/DATA OUTLET	+16" OR AS NOTED	9. 11.
	TELEPHONE OUTLET	FLOOR	
	CALL SWITCH	+4'–0"	2.
C	CLOCK OUTLET	+7'–6"	8.
	CLOCK/SPEAKER COMBINATION	+7'–6"	

STANDARD MOUNTING HEIGHT UNLESS OTHERWISE NOTED ON PLANS

SYMBOL	DESCRIPTION	MOUNTING HEIGHT	NOTES
J	JUNCTION BOX ('F' IN FLOOR)	AS NOTED	
	MOTOR OUTLET	TO SUIT EQUIP.	
P	PHOTO–ELECTRIC CONTROL	AS NOTED	TORK 2000A
TC	TIME CLOCK	+5'–0"	2.
	PUSHBUTTON	+4'–0"	2.
J	NON–FUSED DISCONNECT SWITCH	+5'–0"	5.
FJ	FUSED DISCONNECT SWITCH	+5'–0"	5.
$T	MANUAL STARTER THERMAL OVERLOAD SWITCH WITH PILOT LIGHT	+4'–0"	2.
	MAGNETIC STARTER	+5'–0"	7.
J	MAGNETIC STARTER / DISCONNECT COMBINATION	+5'–0"	
VFD	VARIABLE FREQUENCY DRIVE	+6'–6"	
	PANEL BOARD	TOP AT +6'–0"	
	MAIN DISTRIBUTION PANEL		
	TELEPHONE TERMINAL BOARD		
	BELL	+7'–6"	
	CHIME	+7'–6"	
F	FIRE ALARM MANUAL STATION	+4'–0"	2.
H	FIRE ALARM SIGNAL HORN/STROBE PROJECTORS	+6'–8"	6.
H	FIRE ALARM SIGNAL HORN/STROBE	+6'–8"	6.
E	FIRE ALARM SIGNAL SPEAKER/STROBE	+6'–8"	6.
S	SMOKE DETECTOR	CEILING	
D	DUCT SMOKE DETECTOR		MTD. IN DUCT
H	HEAT DETECTOR	CEILING	
D	FIRE/SMOKE DAMPER		
	DOOR HOLDER	AS NOTED	
FS	FLOW SWITCH		
TS	TAMPER SWITCH		
WF	WATER FLOOD INDICATOR		
	O.S. & Y. VALVE		SEE DIAGRAM
R	FIRE ALARM RELAY		
CM	FIRE ALARM CONTROL MODULE		
MM	FIRE ALARM MONITOR MODULE		
S	FIRE ALARM STROBE	+6'–8"	6.
D	DURESS PUSHBUTTON	+4'–0"	
D 1	SECURITY SYSTEM DOOR SWITCH	DOOR JAMB	
D 2	SECURITY SYSTEM OVERHEAD DOOR SWITCH	CEILING	MOUNT AS PER. MAN
ML	MAGNETIC SHEAR LOCK		
A	SECURITY SYSTEM KEYED ACCESS SWITCH	+4'–0"	2.
I	INFRARED SENSOR	AS NOTED	
M	SECURITY MOTION DETECTOR		MOUNT AS PER. MAN
G	GLASS BREAK DETECTOR	CEILING	
ES	ELECTRIC DOOR STRIKE		
CR	ACCESS CONTROL CARD READER	+4'–0"	2.
	CLOSED CIRCUIT TELEVISION CAMERA	AS NOTED	
	DOOR POSITION INDICATING SWITCH		
#	SOUND SYSTEM SPEAKER	+8'–0" OR AS NOTED	
IC	INTERCOM SPEAKER	AS NOTED	
V	VOLUME CONTROL	+4'–0"	2.
M	MICROPHONE OUTLET	+16"	11.
M	MICROPHONE FLOOR OUTLET	FLOOR	
M	MICROPHONE CEILING OUTLET	CEILING	
	SOUND EQUIPMENT CABINET		CIRCUIT TO 120V
842	ARCHITECTURAL ROOM NUMBER		
A	LIGHT FIXTURE (LETTER DESIGNATES TYPE)		
EQ 34	EQUIPMENT NUMBER		

INDEX OF ELECTRICAL DRAWINGS

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UVCS - STUDENT CENTER ADDITION
OREM, UTAH
CONSTRUCTION DOCUMENTS

Revision # Date
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Axis Job # 0721
BNA Job # ___
Owner # .
Date 05-23-2008
Drawn BNA
Checked .

SYMBOLS, SCHEDULES AND NOTES

EG001

By: jverhaal; Jun 02, 2008 – 5:24pm
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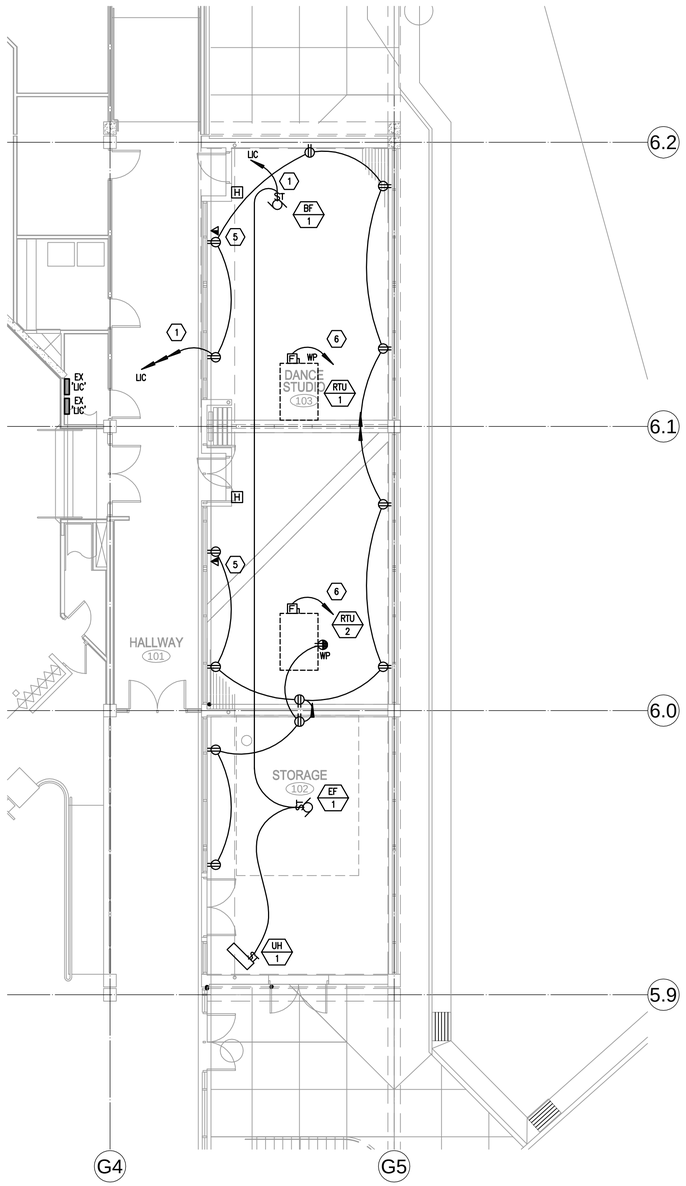
SHEET KEYNOTES

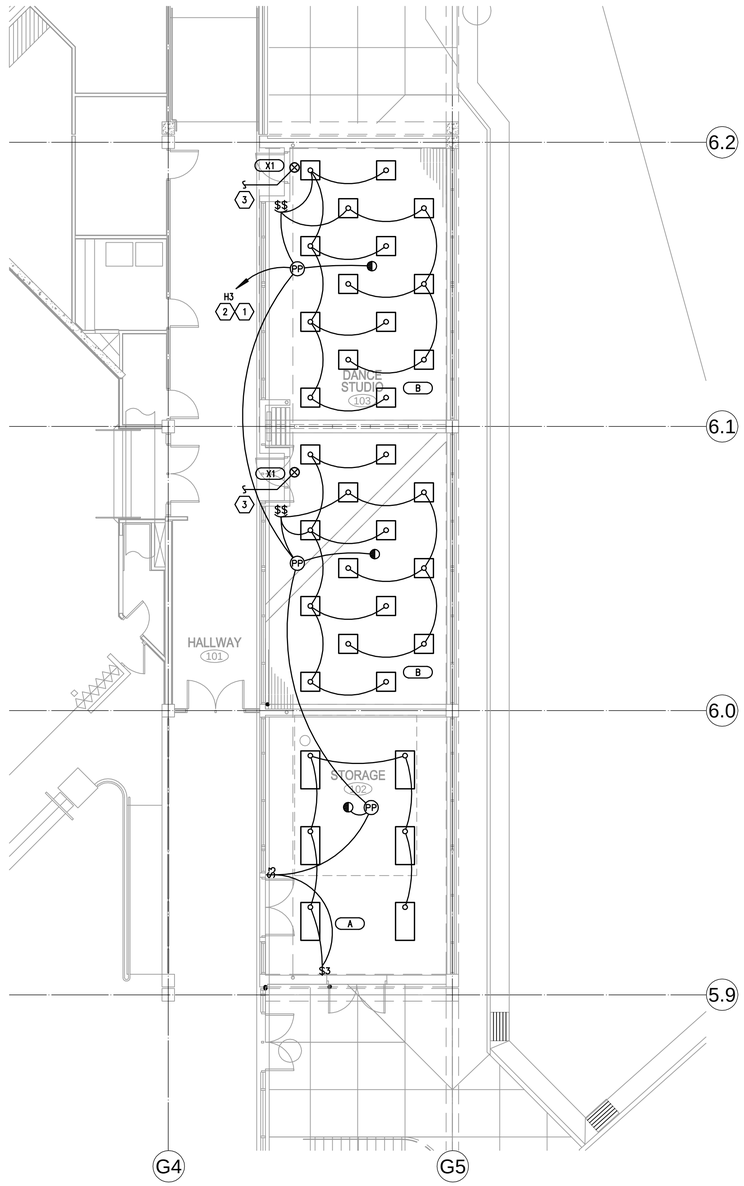
1. CIRCUIT TO NEW 20 AMP 1 POLE CIRCUIT BREAKERS IN EXISTING PANEL INDICATED.
2. PANEL H3 IS LOCATED ON LEVEL 2 BETWEEN GRIDS G1 AND G2 AT GRID 6,5.
3. CIRCUIT EXIT LIGHTS TO EXISTING HALLWAY EMERGENCY EXIT LIGHT CIRCUIT.
4. CONNECT NEW HORN/STROBE INTO EXISTING HALLWAY INDICATING LOOP.
5. PROVIDE A 1" CONDUIT TO THE COMMUNICATIONS CABLETRAY. PROVIDE PULL CORD.
6. CIRCUIT TO A NEW 3 POLE CIRCUIT BREAKER IN EXISTING PANEL INDICATED. SEE EQUIPMENT SCHEDULE FOR SIZES.



PLAN NORTH

POWER PLAN
1/8" = 1'-0"

0 4' 8' 16'



PLAN NORTH

LIGHTING PLAN
1/8" = 1'-0"

0 4' 8' 16'

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ELECTRICAL PLAN

EX101